Watford Town Centre

Streetscape Design Guide

Adopted- July 2013

REV G- Ref: P2004855

WATFORD BOROUGH COUNCIL

Hertfordshire

BDP.

Contents

Section 1: Introduction

This guide has been prepared for Watford Borough Council and in consultation with Hertfordshire County Council, to assist and provide guidance for those involved in the design and implementation of public realm works in Watford's town centre. The guide builds upon the standards set out in the Hertfordshire County Council Public Realm Guide, but is specific to Watford.

Adherence to this guide will ensure that a high quality, consistent and coordinated public realm is implemented in Watford's town centre no matter who carries out the work or when it is delivered.

This document provides streetscape guidance for all of the key streets and roads in the town centre, including The Parade, High Street, Albert Road South, Clarendon Road, Market Street, Queens Road and King Street.

The specific objectives of this guide are to:

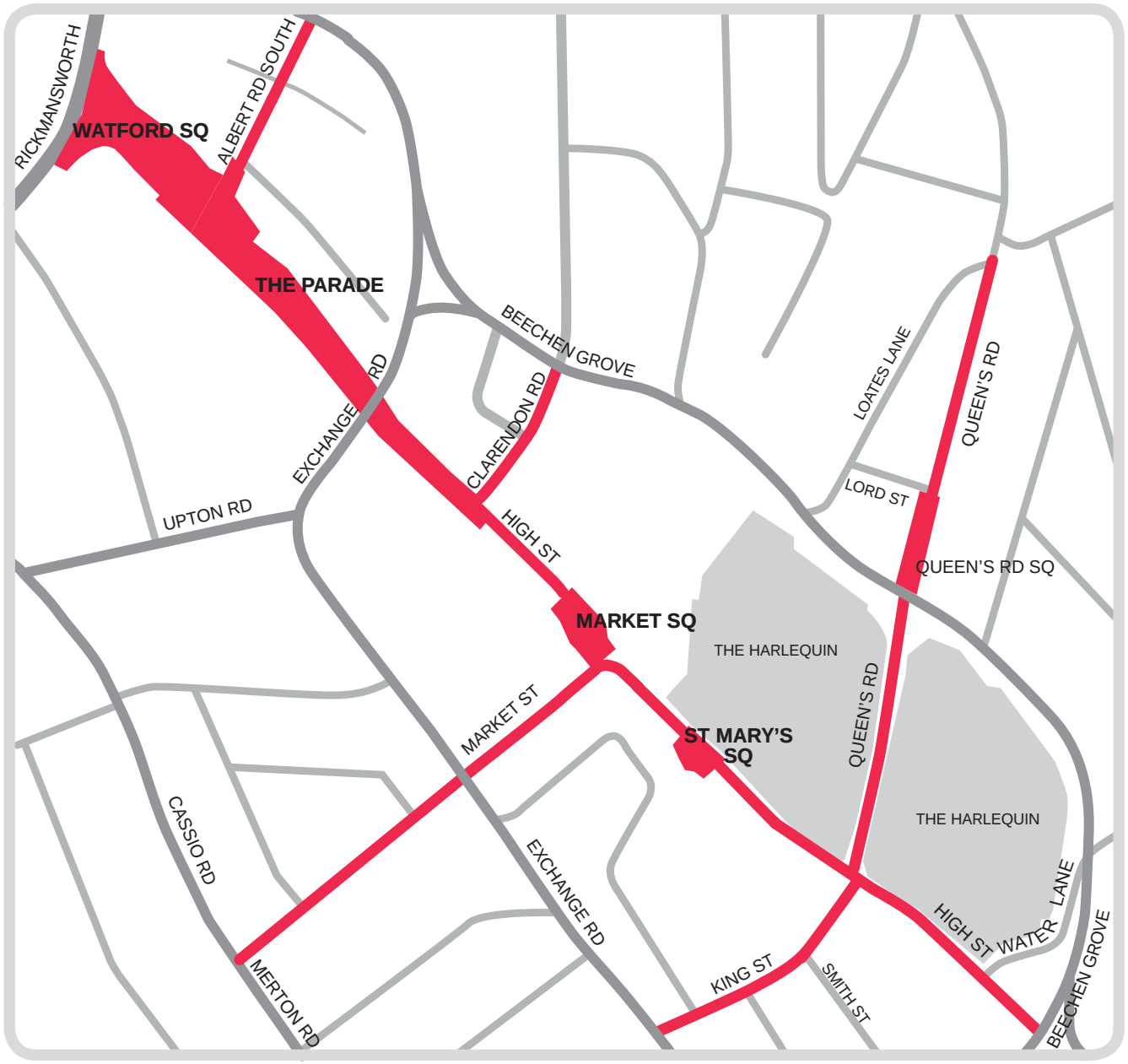
- Set the benchmark of quality and aesthetics for public realm works in the town centre;
- Achieve consistency; and
- Develop a sustainable approach to public realm works.

And it specifically seeks to:

- Rationalise the layout of the streets;
- Determine finishes and street elements;
- Improve and simplify the public realm in the town centre;
- Reuse existing materials where possible; and
- Ensure an appropriate level of quality in materials and detailing.

This document was adopted by Watford Borough Council cabinet as a Supplementary Planning Document in July 2013. It provides detail to support policy in higher level Development Plan Documents (district plan and core strategy). It has also been adopted by Hertfordshire County Council.

An earlier draft of this document was published for public consultation from 12 November to 10 December 2012. This final version has been produced with the benefit of the comments received during that consultation.



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Section 2: Building Upon Previous Studies

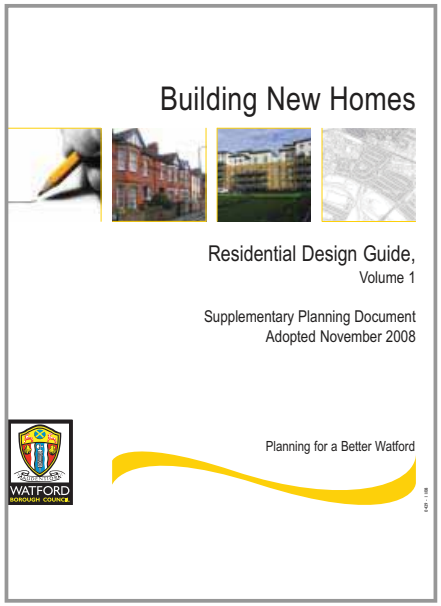
This Streetscape Guide forms part of a package of documents which provide guidance on urban design in Watford, including:

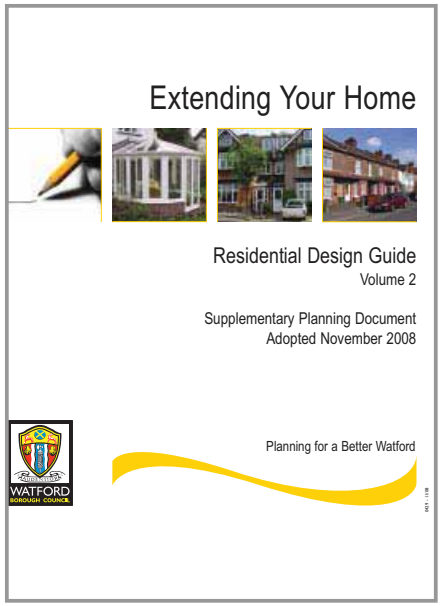
- Residential Design Guide (2008), Volume 1 & Volume 2
- Shopfront Design Guide (2013)
- Watford Character of Area Study (2011): detailed character analysis
- Various character appraisal documents produced for the Borough's conservation areas
- Watford Town Centre Waymarking Strategy (2012)

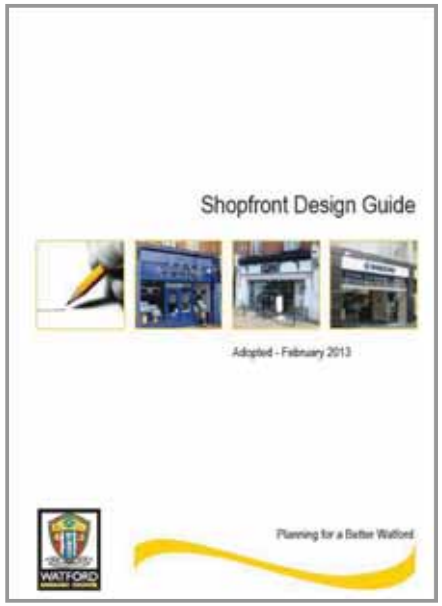
All of these documents support the design aspirations contained within the Watford Core Strategy, which was adopted in January 2013.

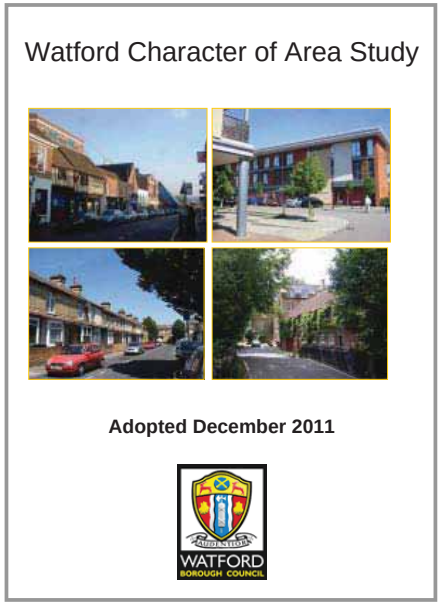
In addition to the documents noted above the part plans and treatments proposed in this guide for the streets have been developed in line with the recommendations made in the South West Herts Cycle Strategy for improving cycle access within the town centre and in particular proformas SWH1 Market Street (Eastern Town Centre Access) and SWH5 Southern Access to Town Centre.

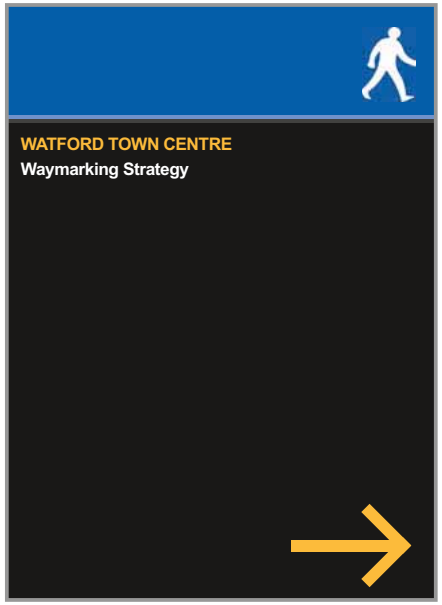
This guide should also be read in conjunction with all relevant national standards and the Hertfordshire County Council Highway Design Guide (2011), Manual for Streets 2.

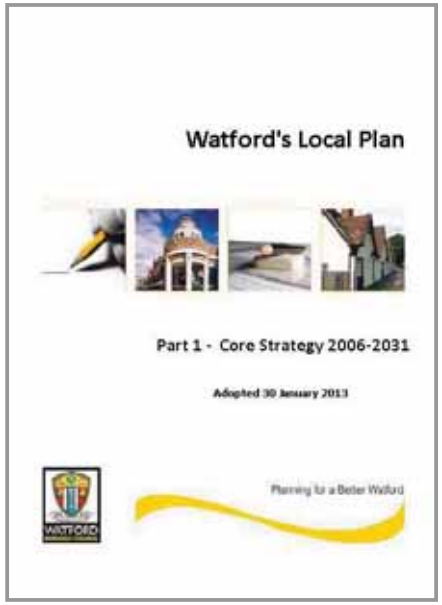












Section 3: The Current Situation

Watford town centre has developed, been added to and changed in sections over time resulting in a public realm that is inconsistent, cluttered and worn out in places. The elements that make up the public realm include a mixture of materials, furniture, lighting and signage in a range of styles and colours, all of which add to the disjointed appearance of the main streets in the town centre.

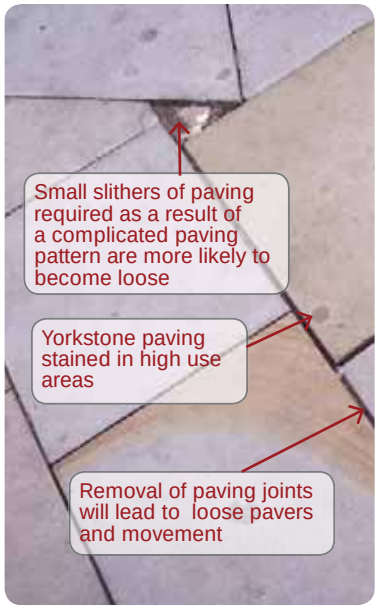
The key issues relating to the existing streetscape are:

Roads

- A variety of materials have been used within the carriageway.
- The contraflow cycle lane is discontinuous along the High Street, ending abruptly at King Street with no signage to direct cyclists to other routes within the cycle network. The location of the cycle way is also inconsistent as between The Parade and Market Square it is located on the footway, whilst elsewhere it is located on the carriageway.
- The location of parking bays and loading bays is inconsistent along the High Street, sometimes located on the road and at other time on the footway.
- The width of the carriageway varies along the High Street and in places the kerb steps in and out rather than forming a continuous line.
- In some locations the bus stops are paved pull in bays flush with the adjacent footway, while others are located in the streets carriageway and demarcated by line markings.

Paving

- The paving surface in The Parade alone is made up of 15 different paving types, creating a busy, confusing and dominating ground plane.
- The ground plane is carved up by overly complicated paving patterns that create awkward junctions and slithers of paving.
- In places the footways have been repaired and/or extended without consideration of consistency, creating a patch worked surface.



- Yorkstone paving has stained in high-use areas of the public realm and attempts to remove gum with jet washing has resulted in the dislodgement of paving joints. Despite the disadvantage of Yorkstone there is already a large amount of it currently in-situ and it is a quality natural stone that brings a warmth to the town centre therefore in appropriate areas such as the Parade it should be retained, re jointed, cleaned and repaired using salvaged units from elsewhere in the town centre. In addition it is recommended to introduce Yorkstone in place of brick pavers where applicable to create consistency throughout the town centre.
- The boundary between public and private property, particularly in the secondary streets, is often obvious due to abrupt changes in levels and materials.
- Paving has moved, subsided and cracked in areas, particularly at junctions with other materials or edges.

Street Furniture

- Multiple types of bins, seats, bollards and cycle stands have been installed throughout the town centre and are often not complimentary to one another in style or colour.
- Some of the street furniture is worn out and dated.
- In places bollards have been used in excess.

Bus Shelters & Advertising

- Existing bus shelters are in good condition and of a clean and simple design.
- In places free-standing advertising units obstruct pedestrian movement.

Public Art

- The meaning and intent of some of the public art in the town centre is no longer obvious.
- A number of the sculptures are static, their forms clunky and their physical bulk adds to clutter of the public realm reducing the flexibility of spaces.

The overall impression of the town centre is a place that has developed and changed in fragments over time, without consideration of the big picture. Rationalising spaces, simplifying the paving, elements and material palette and reorganising elements within the footways will improve the aesthetics, movement and peoples general experience and enjoyment of the town centre.

Section 4: The Approach for Watford

The objectives

The design of good public realm needs to be site specific and respond to the needs and activities of an area.

The approach for Watford's town centre is to create a simple, rationalised and cohesive streetscape that allows flexibility for special areas and elements but provides a robust and elegant foundation for the town to flourish around.

The key objectives for Watford's town centre is to:

- Simplify the floorscape by:
    - Minimising the number of paving materials and applying them consistently throughout the public realm.
    - Simplifying the carriageway paving to asphalt, except for where squares cross the road.
    - Use line markings only to demarcate cycle lanes, parking and loading bays and bus stop bays in the road.
    - Create asphalt pedestrian crossings that are flush with the top of kerb.
    - Extend the footway paving material to the building line wherever possible, and demarcate the highway boundary with studs.
- Improve the cycle network, access and movement in the centre of the town by providing additional contraflow cycle lanes into the southern end of the High Street and Market Street in accordance with the South West Herts Cycling Strategy. Whilst this document provides a set of clear and coherent guidelines it is important to note that any works to new or amended cycle lanes will still be subject to public consultation and the necessary statutory processes, including a road safety audit before they can be implemented.
- De-clutter the streetscape by removing redundant elements and installing an appropriate and coordinated furniture palette in an aligned layout so as to maximise clear space for circulation and flexible use.
- Retain the existing kerb alignment wherever possible and unify road widths when possible and practical. If the kerb line is moved, services may need to be relocated which is often an expensive exercise and therefore the benefits of doing this should be carefully considered against the cost.
- Re-use existing materials where possible.
- Maximise opportunities for on-street parking. Any changes to parking bay numbers and locations should be approved by Hertfordshire County Council and Watford Borough Council.
- Pedestrian crossings are to be located in line with pedestrian desire lines and should not be located on the radii of corners, but on straight sections perpendicular to kerb lines.
- Create greener streets by planting trees where possible, but ensuring they do not to conflict with underground utilities, street lighting, sight lines and CCTV cameras.

The design of spaces also needs to consider and incorporate the following;

- The character and context of the area.
- How the space is used and likely to be used in the future.
- People and vehicles required and desired movements and accessibility.
- Disabled access.
- Legibility and wayfinding.
- The spaces adaptability to future uses and ranges of activities.
- Safety and passive surveillance.
- Sustainability and robustness.
- Value for money.
- A realistic approach to long term management and maintenance.

An example of a successful town centre streetsape

Elizabeth Street Mayfair

Hierarchy of the streets

The general arrangement of streets in Watford's town centre and the materials proposed for them should be determined by the function and use of the street. Within the town centre there are three distinct groups of streets; the main shopping street shown in purple, secondary streets shown in yellow and alleyways shown in green.

The main shopping street is where most of the shops, cafes, businesses, pubs, bars, etc. are located, it is heavily used by people and vehicles and where most of the public interaction takes place from both locals and visitors to the area. These streets should:

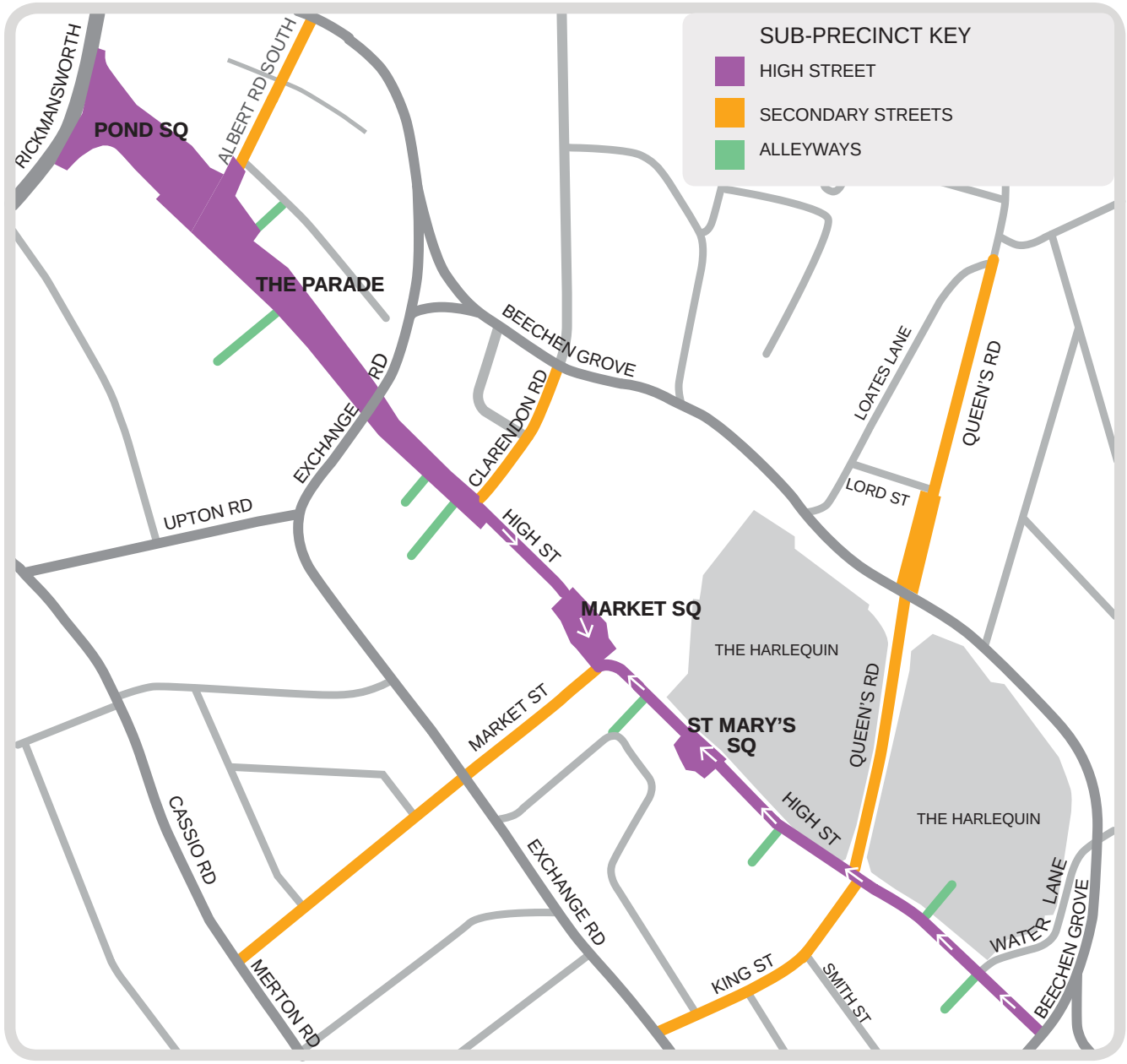
- Use high quality materials that are robust, aesthetic and durable.
- Have priority given to pedestrian movement.
- The street layouts restructured to visually simplify and improve cycle movements.
- Aid movement for those who are mobile and/or visually impaired.

The secondary streets act as conduits to and from the High Street and are lined with a mix of residential properties, retail and service-based businesses. These streets are used primarily by locals with a lower level of public interaction than the High Street. These streets should:

- Be more economical while also being robust, aesthetic and durable.
- Have equal priority given to vehicles and pedestrians.
- Have minimal intervention to their current layout.

The Alleyways provide pedestrian links to and from the High Street and Parade. These streets are primarily used by local residents and businesses with a lower level of foot traffic. Alleyways fall into two groups: Primary Alleyways that link to key destinations such a supermarkets while Secondary Alleyways link to residential or other properties and have lower footfall. In general alleyways should:

- Have minimal intervention to their existing layout
- Be surfaced in a material that is economical and appropriate to the frequence of use and the adjacent paving materials



Section 5: Main Shopping Streets Treatments

General Guidelines

The general design guidelines to be applied to the main shopping streets are:

Typical Arrangement:

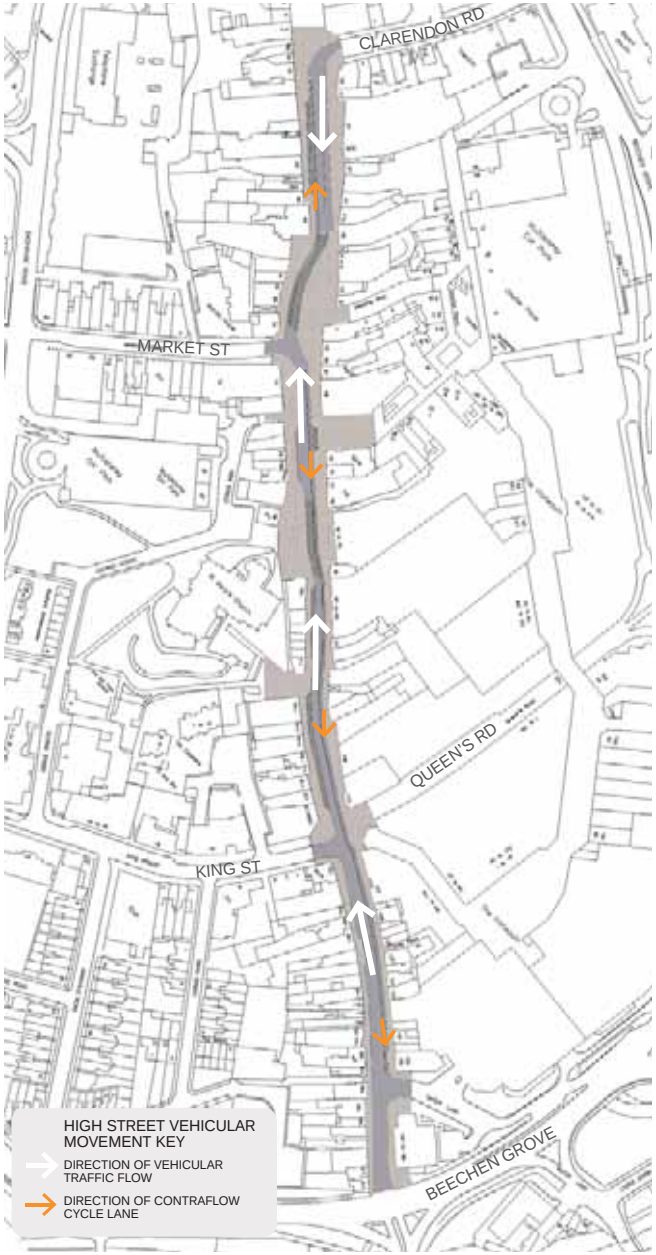
- Provide a new contraflow cycle lane between King St and Beechen Grove
- Standardise the contraflow cycle lane through the town centre by making it a consistent width and locating it on the carriageway between the traffic lane and the kerb.
- Locate all parking bays and loading bays on the footway.
- Locate all bus stops in the carriageway and demarcate with line markings.

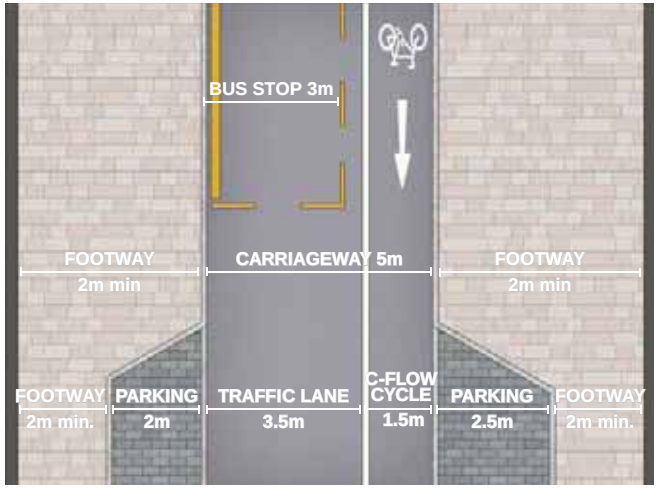
Typical Dimensions:

- Contraflow cycle lane: 1.5m wide
- Traffic lanes: 3.5m wide
- Bus stops: 3m wide zone
- Parking and loading bays: 2m wide minimum, 2.5m wide when adjacent a contraflow cycle lane
- Footways : 2m wide minimum, generally retain as existing

Typical Materials:

- Use high quality, durable materials like natural stone
- Carriageway, on road parking bays and contra flow cycle lane: Asphalt
- Footways: Yorkstone slabs
- Squares and pedestrianised streets: Yorkstone and granite slabs
- Parking located on the footway and loading bays: Granite setts





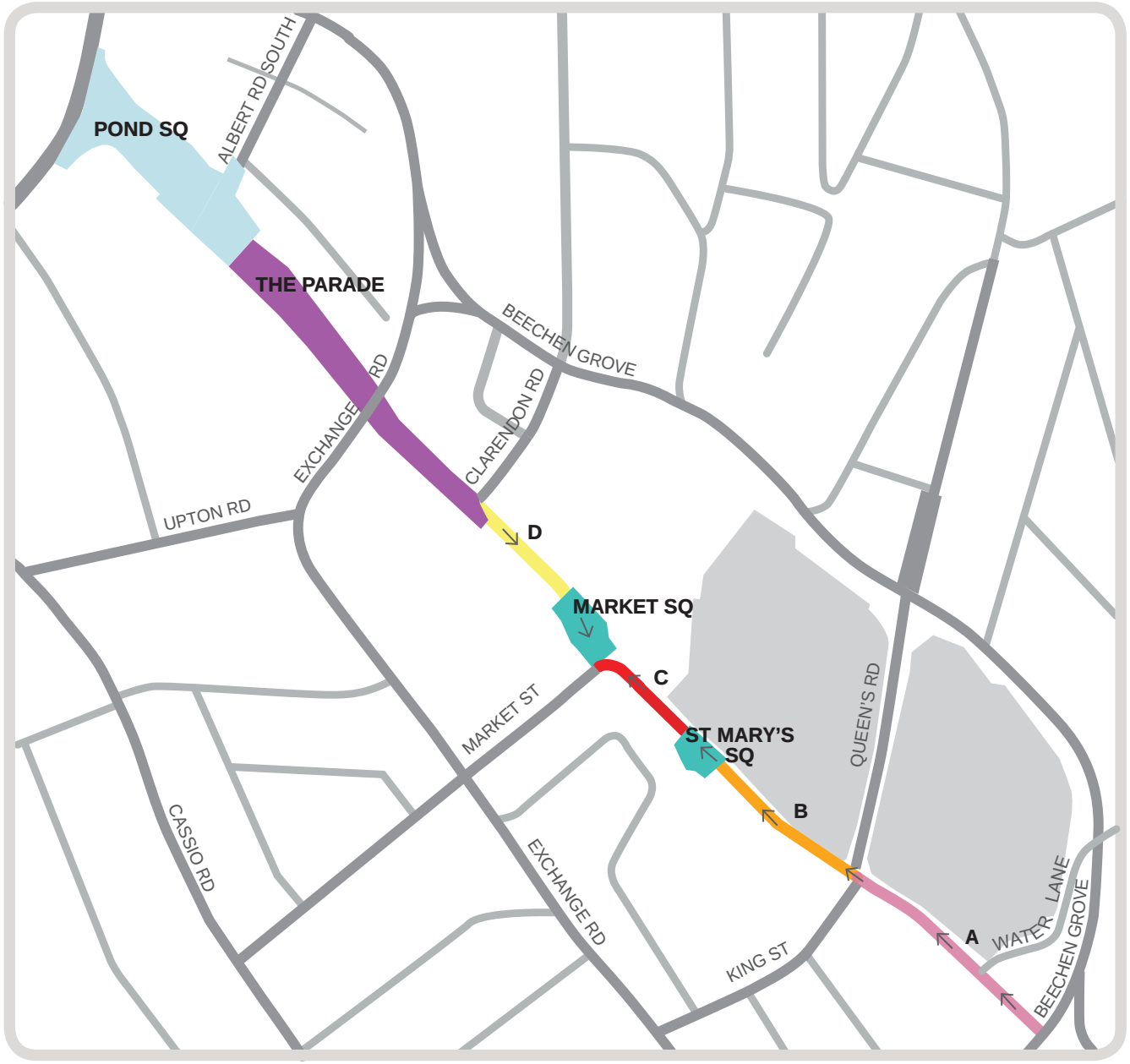
Typical dimensions of vehicular areas

Main Shopping Street Part Plans

There are a number of different conditions occurring along the main shopping street so for ease of use and application the area has been divided up into different treatments as shown in the adjacent plan. The following series of typical treatments illustrate how the objectives and principles for Watford's town centre are to be applied to the varying existing conditions.

The boxed text on each page details the specific changes required to each section of street.

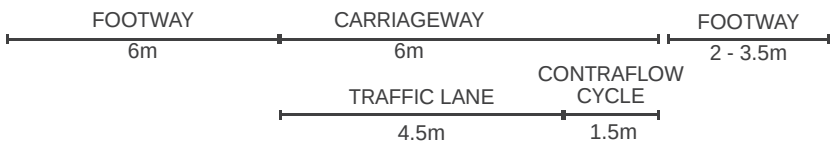
It should be noted that these plans are intended as a guide only that set out the principles. Detailed design will be required to successfully implement these concepts.

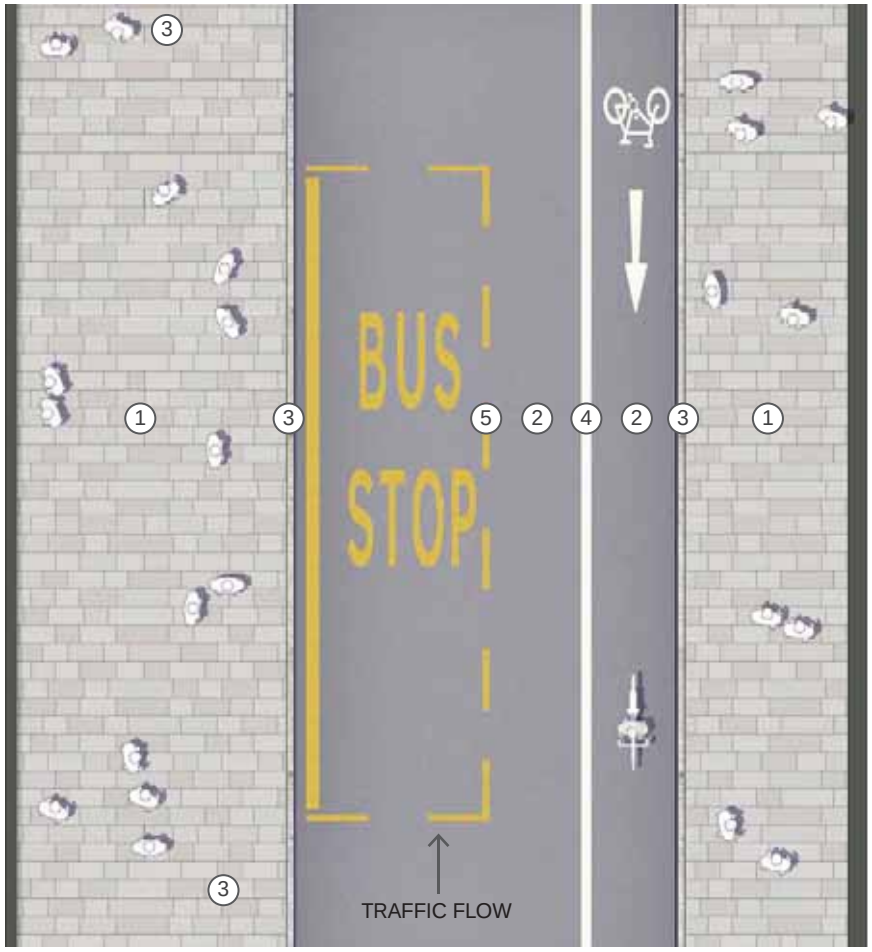


PART PLAN KEY

- HIGH STREET TYPICAL TREATMENT A: between Beechen Grove & King St
- HIGH STREET TYPICAL TREATMENT B: between King St & St Mary's Square
- HIGH STREET TYPICAL TREATMENT C: between St Mary's Square & Market Square
- HIGH STREET TYPICAL TREATMENT D: between Market Square & The Parade
- MARKET & ST MARY'S SQUARES
- THE PARADE PEDESTRIAN STREET
- POND SQUARE
- DIRECTION OF TRAFFIC FLOW

HIGH STREET TYPICAL TREATMENT A



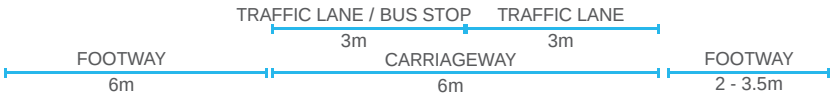


Materials

1. PAVING TYPE A: Yorkstone
2. BLACK ASPHALT
3. KERB TYPE A: 100mm kerb face
4. LINE MARKINGS: White
5. LINE MARKINGS: Yellow

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions



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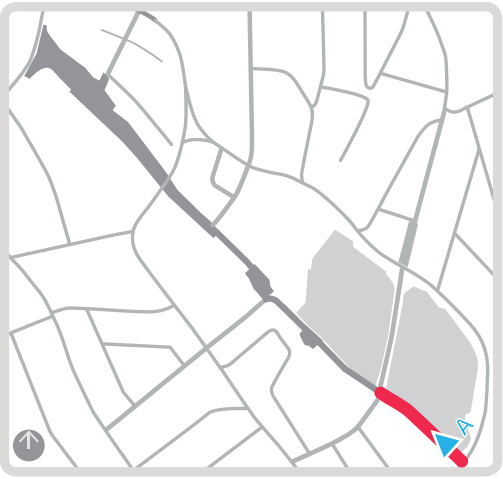


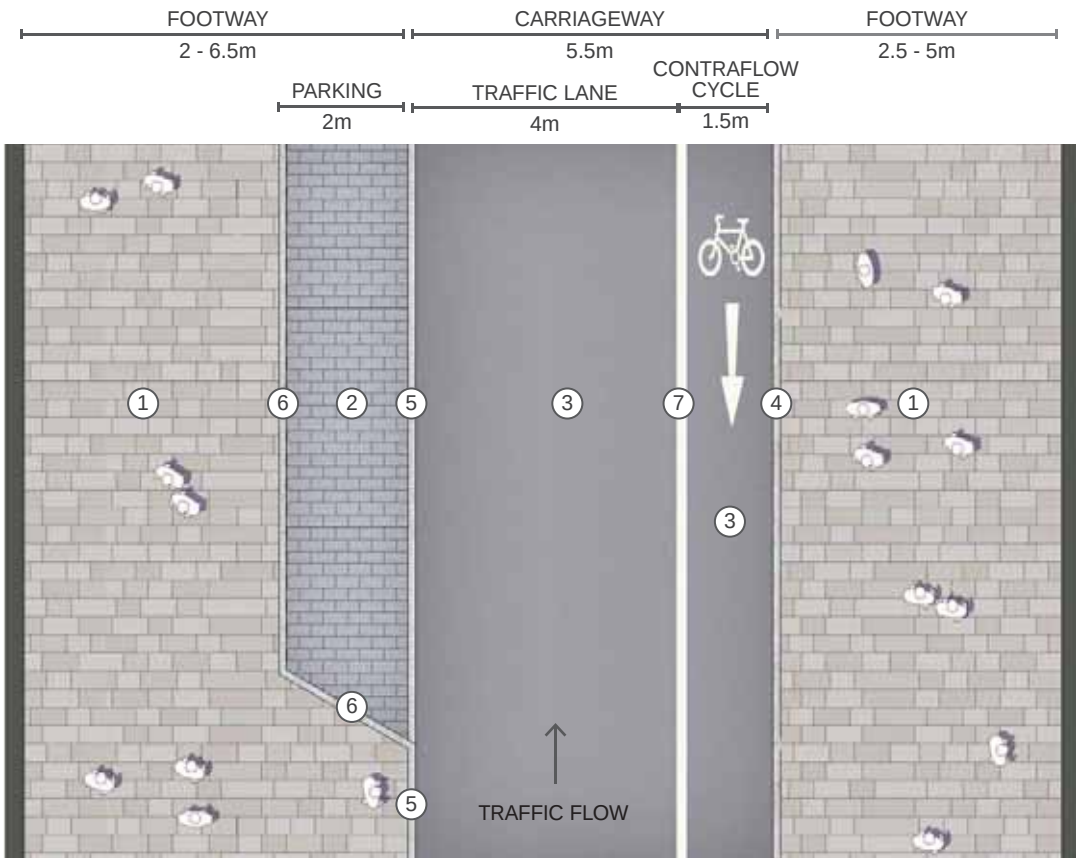
▲A EXISTING STREETSCAPE

HIGH ST BETWEEN BEECHEN GROVE & KING ST:

- Insert contraflow cycle lane to eastern side of road
- Widen footway to West side of street
- Reduce carriageway to one traffic lane plus a contra flow cycle lane
- Replace brick paving in footways with Yorkstone
- Replace and rearrange street furniture as noted in Section 8 of this guide
- Remove parking

Note: The proposed layout is the preferred way forward. If retaining existing parking is required, retain kerb lines, relocate parking to the western side of the street and create a build out for the bus stop to widen the footway.

HIGH STREET TREATMENT B

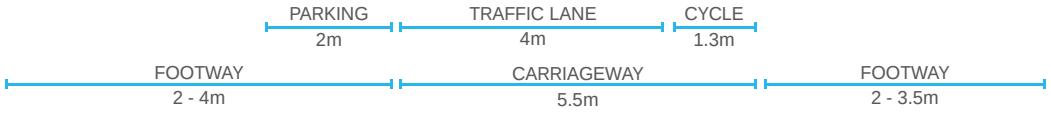


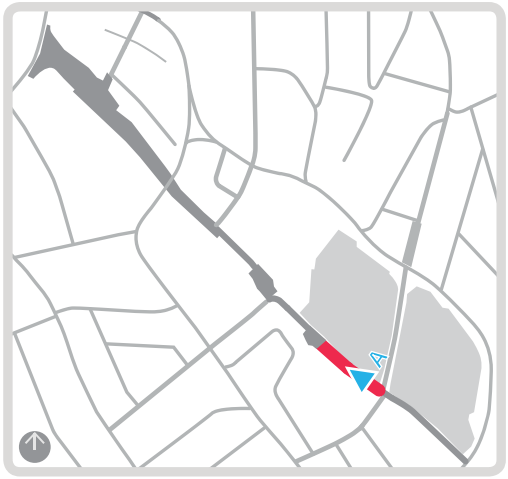
Materials

1. PAVING TYPE A: Yorkstone
2. PAVING TYPE B: Granite setts
3. BLACK ASPHALT
4. KERB TYPE A: 100mm kerb face
5. KERB TYPE B1: 25mm kerb face
6. KERB TYPE B2: Flush kerb
7. LINE MARKINGS: White

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions





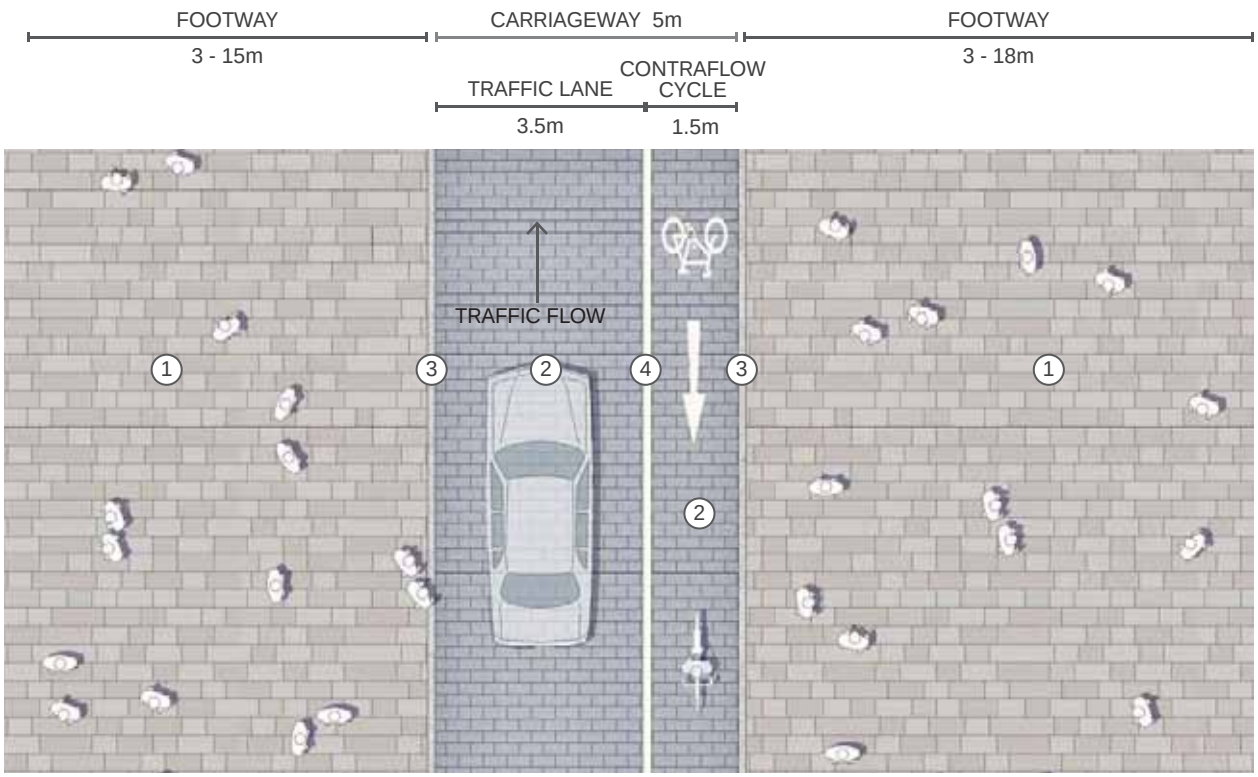
▲A EXISTING STREETSCAPE

HIGH ST BETWEEN KING ST & ST MARY'S SQUARE:

- Remove all unit paving in carriageway and replace with black asphalt
- Retain parking bays flush with footway on western side of the road
- Retain granite kerbs & granite setts in parking bays & Yorkstone paving in footways
- Replace areas of brick paving in footways with Yorkstone
- Replace and rearrange street furniture as noted in Section 8 of this guide

Note: If access is further restricted for this section of the high street, the streetscape arrangements for The Parade should be followed for this area.

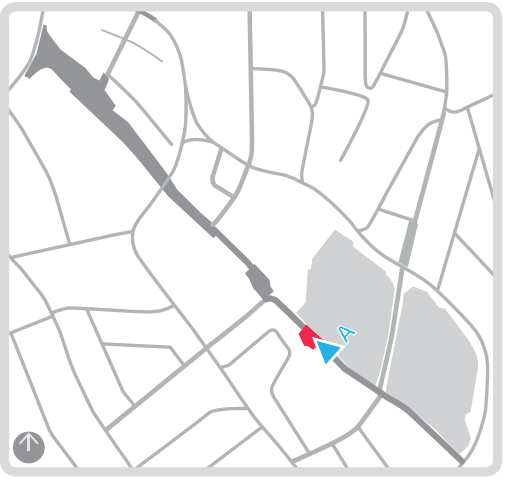
ST MARY'S SQUARE TYPICAL TREATMENT



Materials

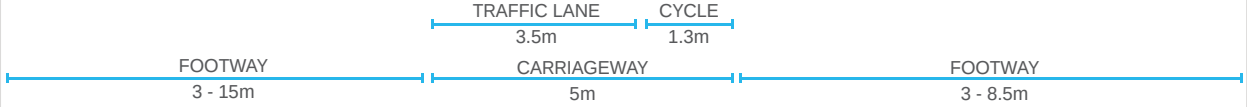
1. PAVING TYPE A: Yorkstone
2. PAVING TYPE B: Granite setts
3. KERB TYPE B1: Flush kerb
4. LINE MARKINGS: White

Refer to Section 8 in this guide for further information on detailed design and specifications



▲A EXISTING STREETSCAPE

Approximate Existing Dimensions

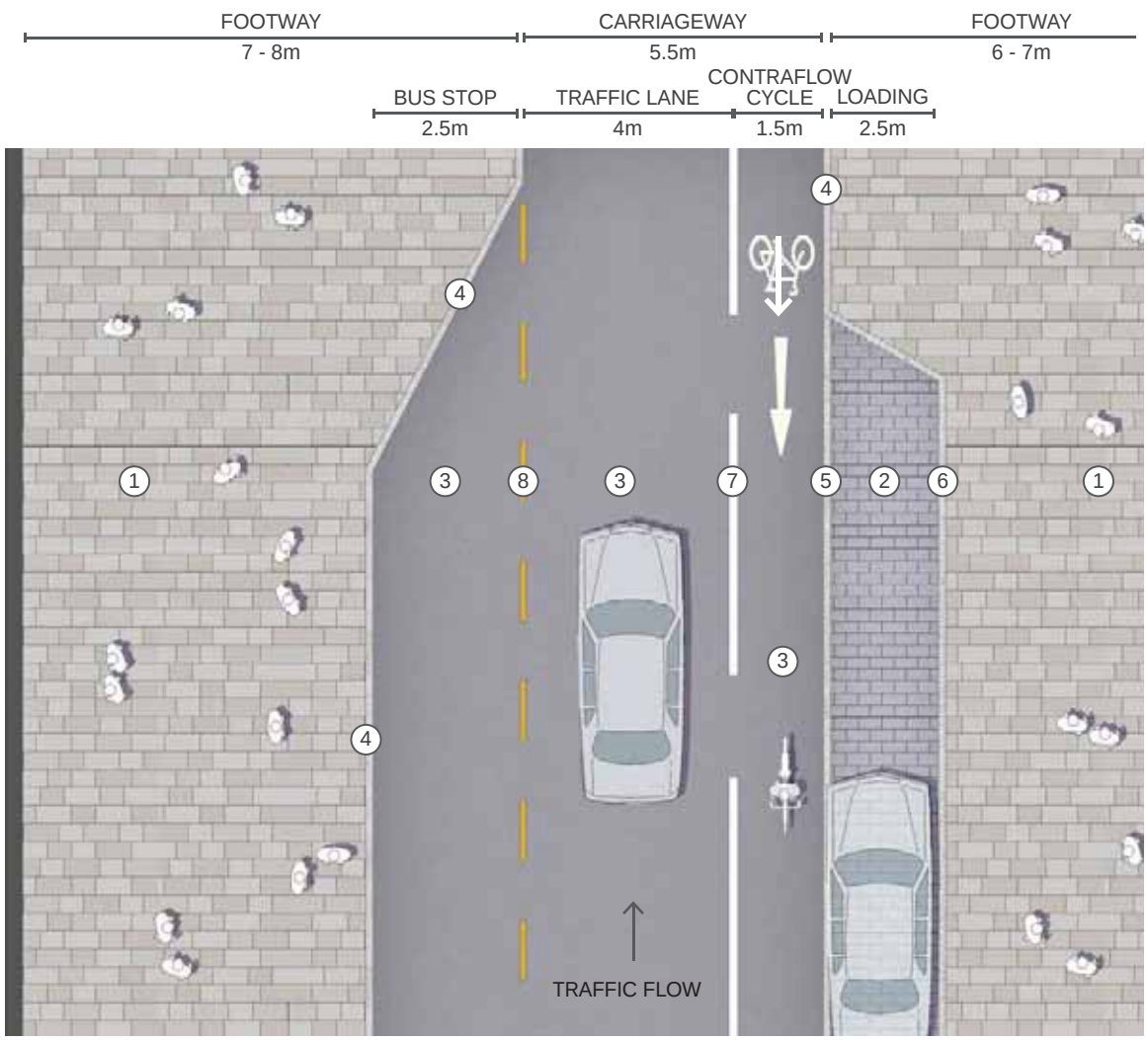


HIGH ST: ST MARY'S SQUARE:

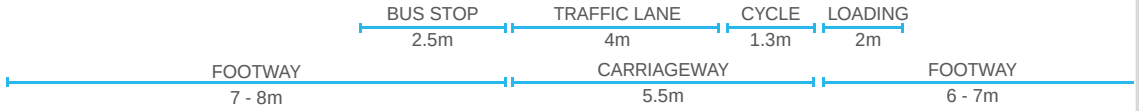
- Remove all paving from carriageway and replace with granite setts
- Retain flush granite kerbs & Yorkstone paving in footways
- Replace and rearrange street furniture as noted in Section 8 of this guide

Note: If access is further restricted for this section of the high street, the streetscape arrangements for The Parade should be followed for this area.

HIGH STREET TYPICAL TREATMENT C



Approximate Existing Dimensions



Materials

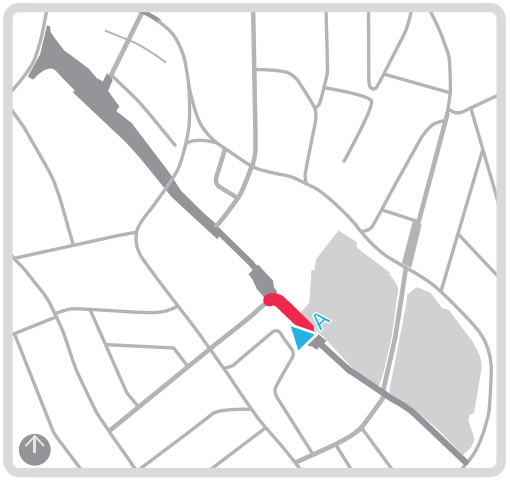
1. PAVING TYPE A: Yorkstone
2. PAVING TYPE B: Granite setts
3. BLACK ASPHALT
4. KERB TYPE A: 100mm kerb face
5. KERB TYPE B1: 25mm kerb face
6. KERB TYPE B2: Flush kerb
7. LINE MARKINGS: White
8. LINE MARKINGS: Yellow

Refer to Section 8 in this guide for further information on detailed design and specifications

Note:

If access is further restricted for this section of the high street, the streetscape arrangements for The Parade should be followed for this area.

While it is preferred that kerbs are 100mm high, the cost of diverting existing utilities to accommodate this could be high. Assess the benefits of lowering the carriageway/lifting the kerb against financial implications and drainage before proceeding.

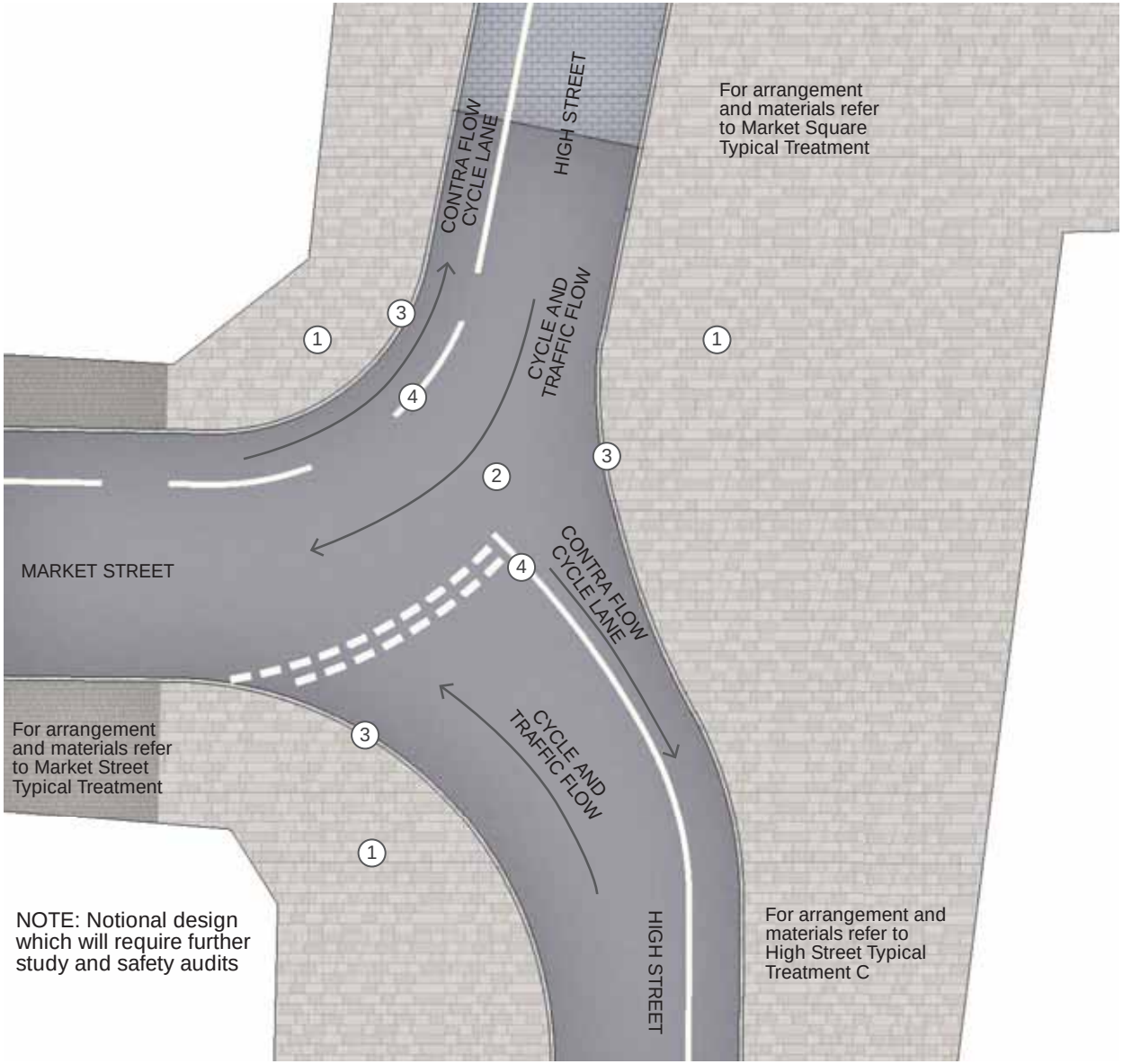


A EXISTING STREETSCAPE

HIGH ST BETWEEN ST MARY'S SQUARE & MARKET SQUARE:

- Remove all unit paving from carriageway and replace with black asphalt
- Replace brick paving in loading bays with granite setts
- Bus stop bay to be re-paved in black asphalt and separated from the footway with a 100mm kerb
- Retain Yorkstone paving in footways & replace areas of brick paving with Yorkstone to the building line
- Carriageway to be lowered to create 100mm high kerbs.
- Replace and rearrange street furniture as noted in Section 8 of this guide

HIGH STREET AND MARKET STREET JUNCTION



NOTE: Notional design which will require further study and safety audits

Materials

1. PAVING TYPE A: Yorkstone
2. BLACK ASPHALT
3. KERB TYPE B1: 100mm kerb face
4. LINE MARKINGS: White

Refer to Section 8 in this guide for further information on detailed design and specifications

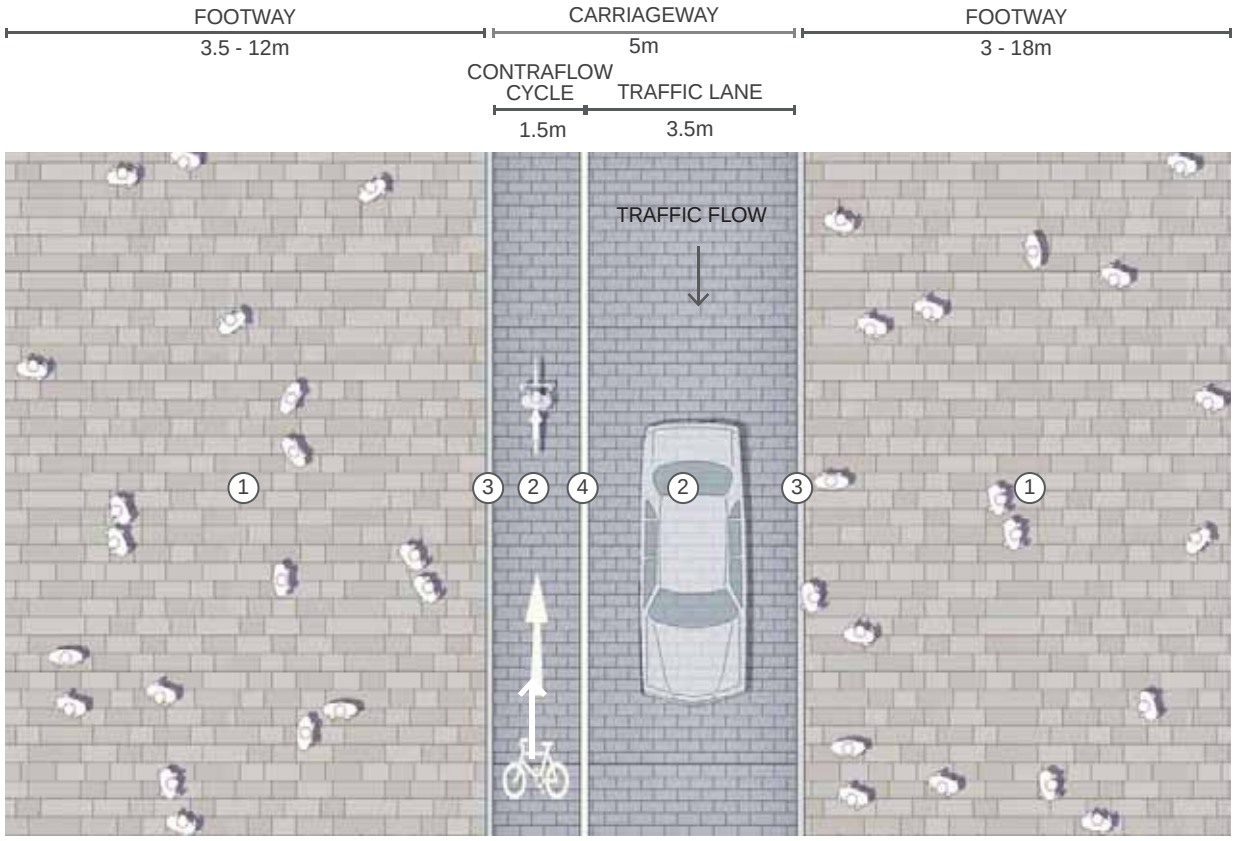
A EXISTING STREETSCAPE

HIGH ST: MARKET ST:

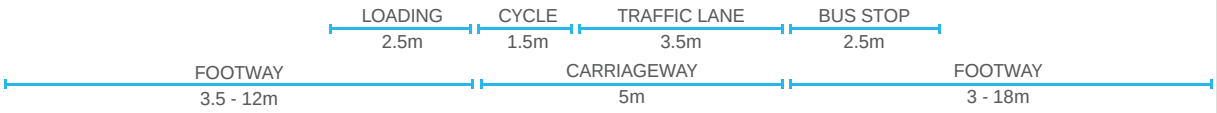
- Remove all paving from carriageway and replace with asphalt
- Retain granite kerbs & Yorkstone paving in footways
- Replace and rearrange street furniture as noted in Section 8 of this guide
- Retain existing trees where possible
- Carriageway to be lowered to create 100mm high kerbs.

NOTE: while it is preferred that kerbs are 100mm high, the cost of diverting existing utilities to accommodate this could be high. Assess the benefits of lowering the carriageway/lifting the kerb against financial implications and drainage before proceeding.

MARKET SQUARE TYPICAL TREATMENT



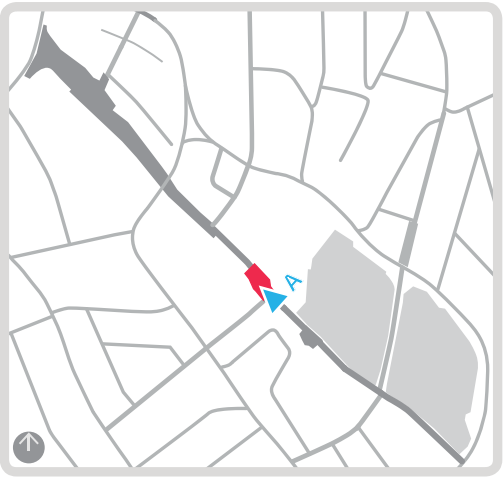
Approximate Existing Dimensions



Materials

1. PAVING TYPE A: Yorkstone
2. PAVING TYPE B: Granite setts
3. KERB TYPE B2: Flush kerb
4. LINE MARKINGS: White

Refer to Section 8 in this guide for further information on detailed design and specifications

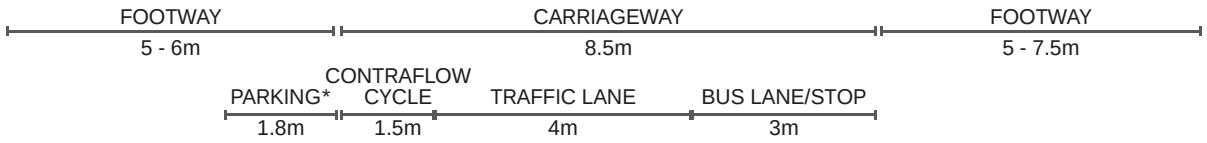


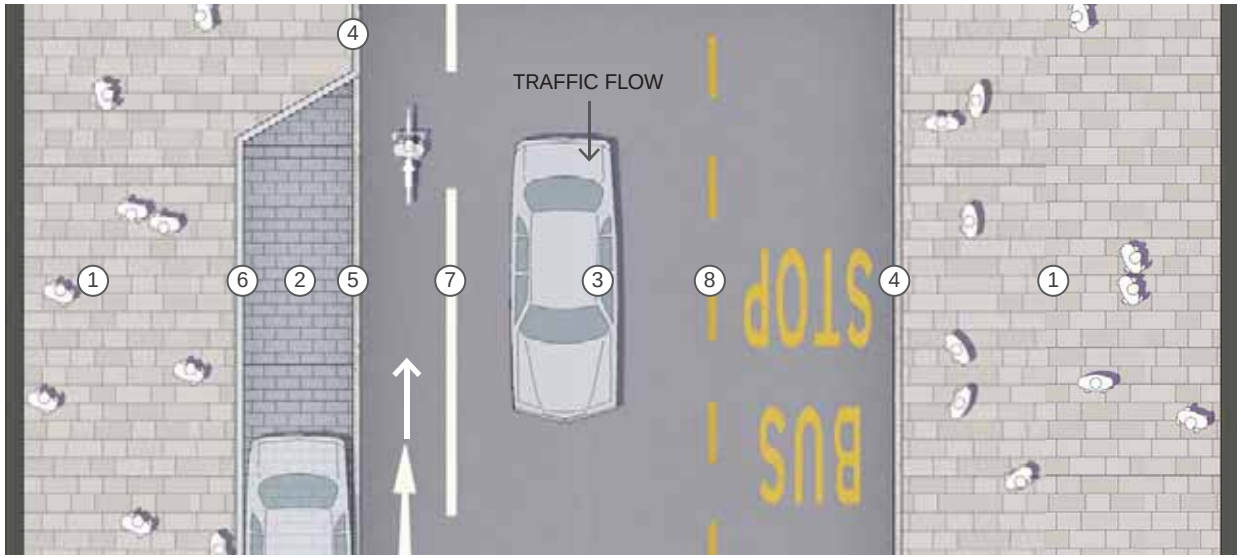
▲A EXISTING STREETSCAPE

HIGH ST: MARKET SQUARE:

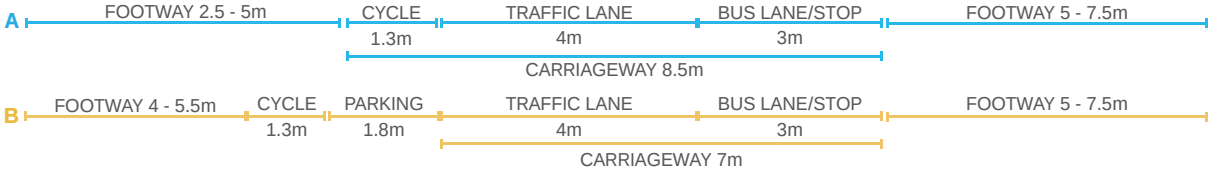
- Remove all unit paving from carriageway and replace with granite setts
- Retain flush granite kerbs & Yorkstone paving in footways
- Replace areas of brick paving in footway with Yorkstone
- Replace and rearrange street furniture as noted in Section 8 of this guide

HIGH STREET TYPICAL TREATMENT D





Approximate Existing Dimensions



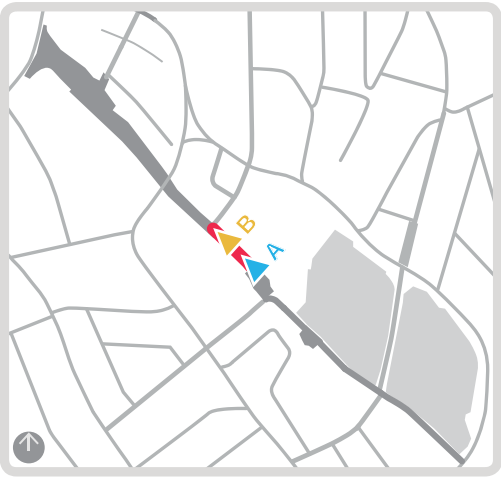
▲A EXISTING STREETSCAPE

▲B EXISTING STREETSCAPE

Materials

1. PAVING TYPE A: Yorkstone
2. PAVING TYPE B: Granite setts
3. BLACK ASPHALT
4. KERB TYPE A: 100mm kerb face
5. KERB TYPE B1: 25mm kerb face
6. KERB TYPE B2: Flush kerb
7. LINE MARKINGS: White
8. LINE MARKINGS: Yellow

Refer to Section 8 in this guide for further information on detailed design and specifications



HIGH ST BETWEEN MARKET SQUARE AND THE PARADE:

- Carriageway in northern section (B) to be widened to match southern section (A), achieving a consistent width of 8.5m*
- Relocate contraflow cycle lane to carriageway
- Remove all unit paving from carriageway and replace with black asphalt
- Retain Yorkstone paving to footways
- Replace and rearrange street furniture as noted in Section 8 of this guide

*Note: while it is preferred that parking is retained, the cost of diverting existing utilities to accommodate this could be high. Assess the benefits of moving the kerb and retaining parking bays against financial implications before proceeding.

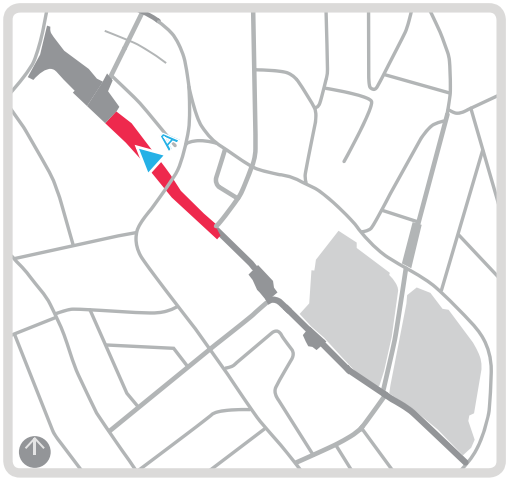
THE PARADE TYPICAL TREATMENT

Approximate Existing Dimensions

Materials

1. PAVING TYPE C: Mixed coloured granite flags
2. PAVING TYPE A: Yorkstone
3. TREE SURROUNDS

Refer to Section 8 in this guide for further information on detailed design and specifications

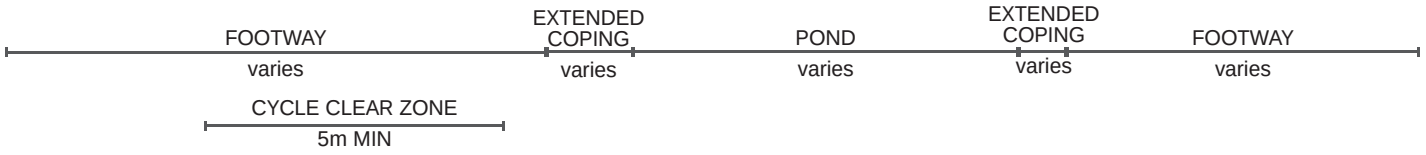


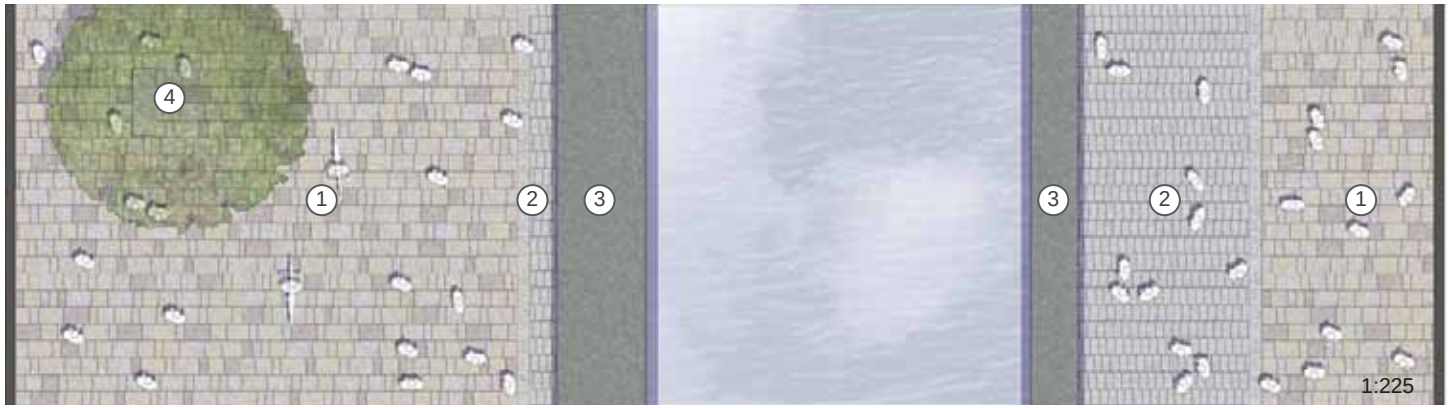
▲A EXISTING PEDESTRIAN STREETSCAPE

THE PARADE:

- Retain yorkstone paving, remove other paving from yorkstone band and replace with Yorkstone
- Remove all other existing paving and replace with granite flags
- Retain existing trees where possible & replace tree surrounds
- Do not demarcate cycle path: provide a minimum 5m wide zone clear of any obstructions
- Replace and rearrange street furniture as noted in Section 8 of this guide

POND SQUARE TYPICAL TREATMENT A



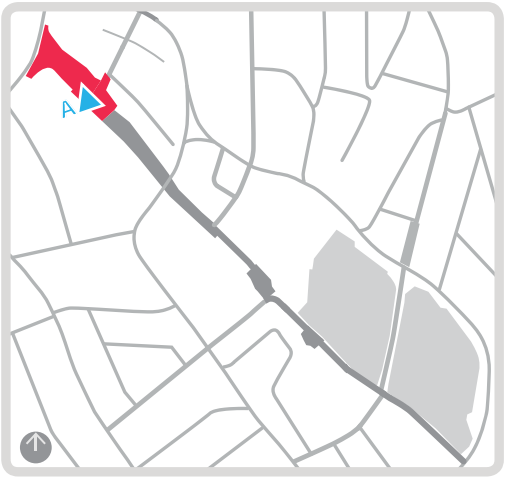


Approximate Existing Dimensions

Materials

1. PAVING TYPE C: Mixed coloured granite flags
2. PAVING TYPE C: Variation on standard colour mix
3. GRANITE COPING
4. TREE SURROUNDS

Refer to Section 8 in this guide for further information on detailed design and specifications

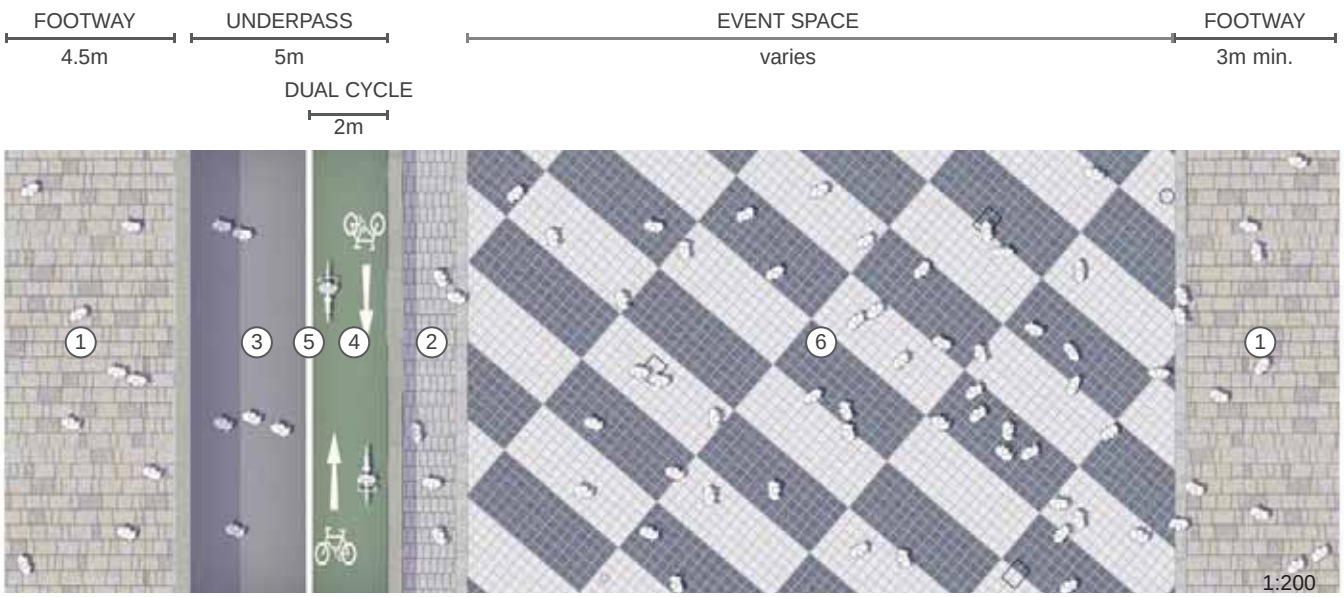


▲A EXISTING SQUARE

POND SQUARE:

- Lift existing Yorkstone paving & retain for use elsewhere within the town centre, replace with granite flags
- Remove all other existing paving & replace with granite flags
- Retain existing trees where possible & replace tree surrounds
- Replace pond coping with a wider granite coping
- Do not demarcate cycle path: provide a minimum 5m wide zone clear of any obstructions
- Replace and rearrange street furniture as noted in Section 8 of this guide

POND SQUARE TYPICAL TREATMENT B

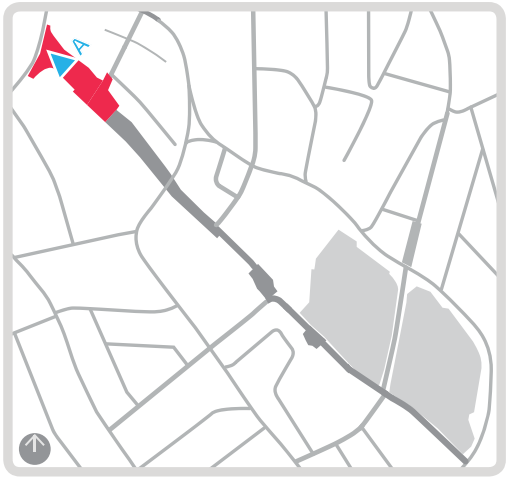


Approximate Existing Dimensions

Materials

1. PAVING TYPE C: Mixed coloured granite flags
2. PAVING TYPE C: Variation on standard colour mix
3. SUBWAY FOOTWAY: Black
4. SUBWAY CYCLE LANE: Green
5. LINE MARKING: White
6. PAVING TYPE D: Natural stone flags to create feature area

Refer to Section 8 in this guide for further information on detailed design and specifications



▲A EXISTING SQUARE

POND SQUARE:

- Retain underpass and segregated cycle lane
- Remove all other existing paving and replace with granite flags
- Insert flexible event space: demarcate with a contrasting paving pattern and/or colour
- Replace and rearrange street furniture as noted in Section 8 of this guide

Section 6: Secondary Streets Treatments

General Guidelines

The general design guidelines to be applied to the secondary streets are:

Typical Arrangement:

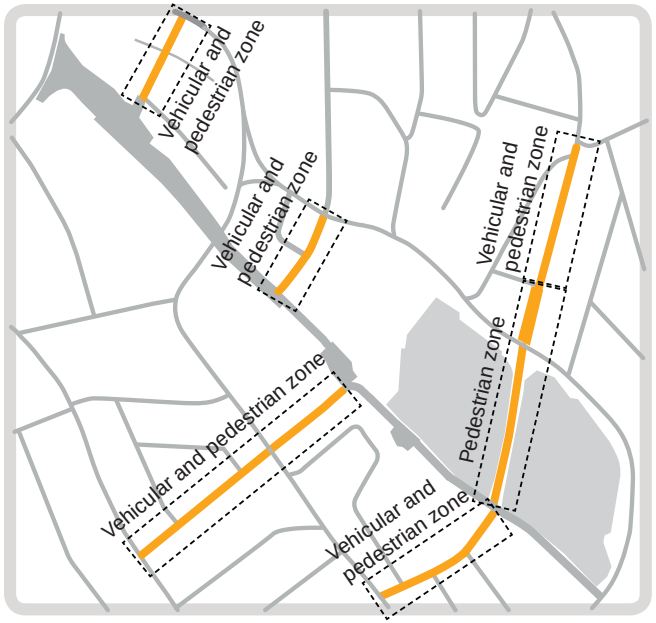
- Retain the number of, and width of traffic lanes and parking bays.
- Locate parking bays and loading bays on the road.
- Locate all bus stops in the carriageway and demarcate with line markings.
- Separate the footway from the road with a kerb with a 100mm kerb face.
- Provide a new contraflow cycle lane in Market Street.

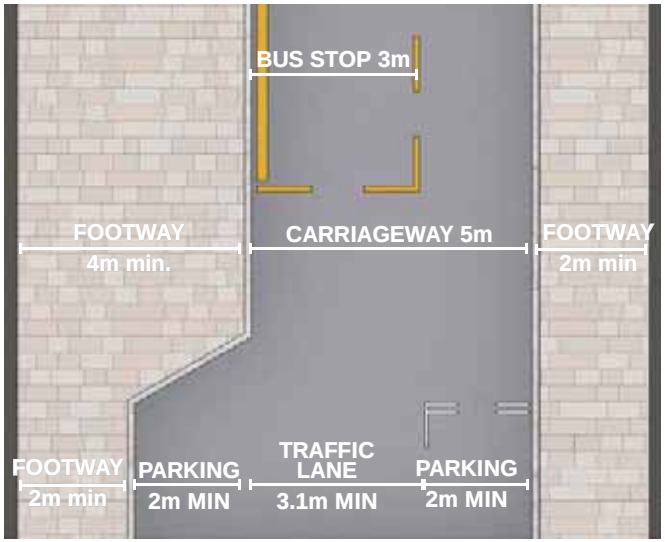
Typical Dimensions:

- Traffic lanes: 3.1m wide minimum
- Bus stops: 3m wide zone
- Parking and loading bays: 2m wide minimum, generally retain as per existing. Loading bays adjacent cycle lanes to be a minimum 2.5m wide
- Footways : 2m wide minimum, generally retain as per existing
- Contraflow cycle lane: 1.5m wide

Typical Materials:

- Use economical, durable but aesthetic materials
- Carriageway, on road parking bays and contra flow cycle lane: Asphalt
- Footways and drive way cross overs: Pennant grey Tegula. Red Tegula footways to be replaced with pennant grey as the red pavers fade over time.
- Pedestrianised areas: Yorkstone and pennant grey Tegula





Secondary Street Typical Dimensions

Secondary Streets Part Plans

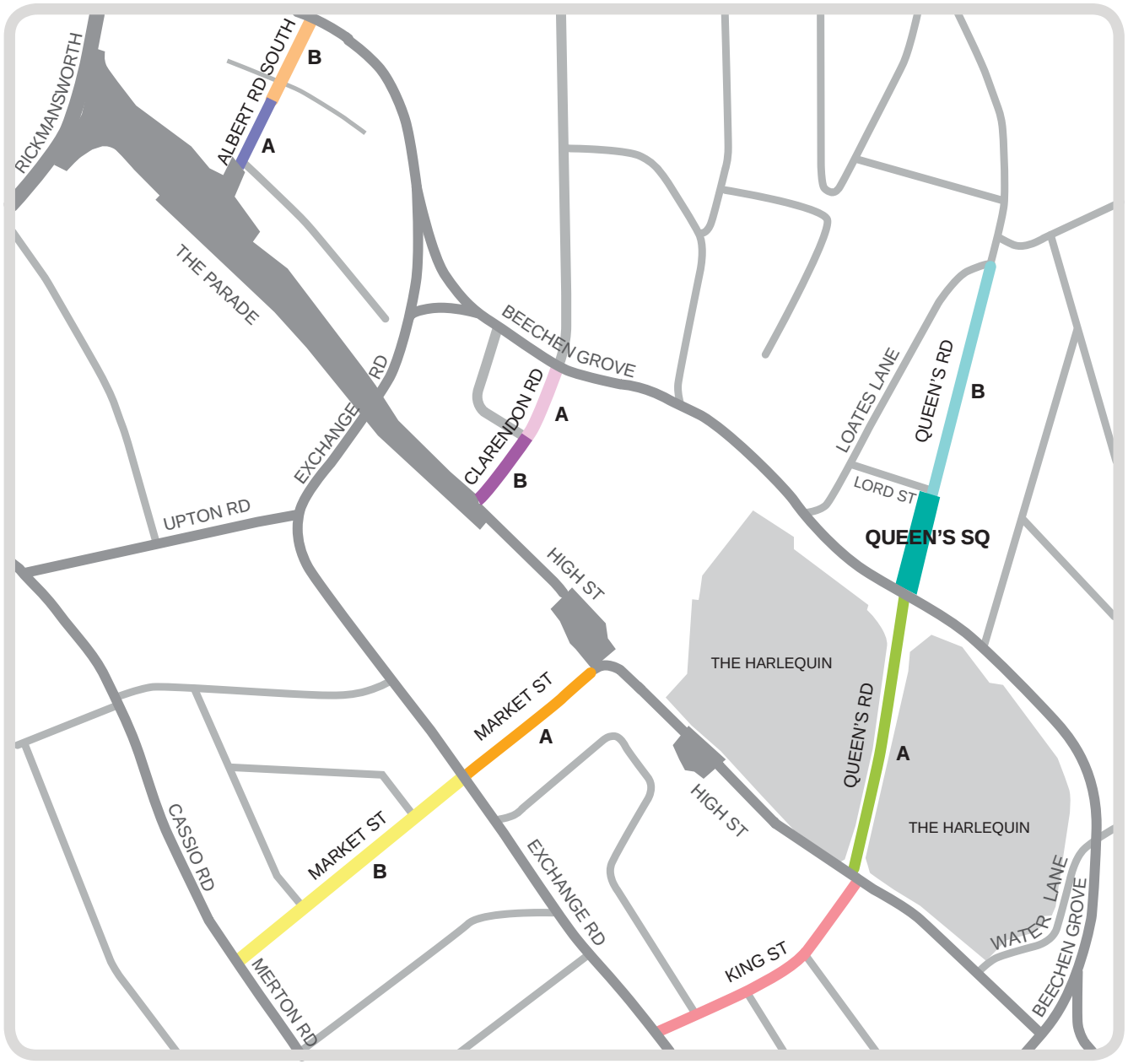
There are a number of different conditions occurring along the secondary streets so for ease of use and application the streets have been divided up into different treatments as shown in the adjacent plan. The following series of typical treatments illustrate how the objectives and principles for Watford's town centre are to be applied to the varying existing conditions.

The boxed text on each page details the specific changes required to each section of street.

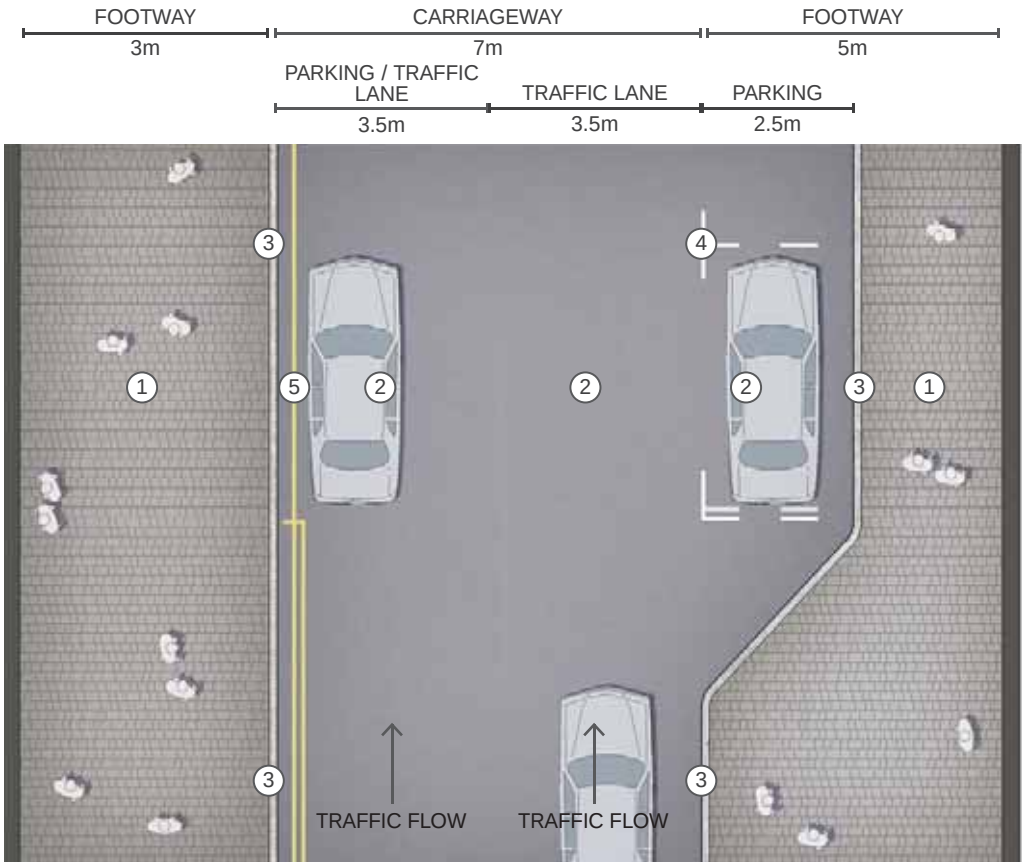
It should be noted that these plans are intended as a guide only that set out the principles, and detailed design will be required to successfully implement these concepts.

KEY

- KING STREET TYPICAL TREATMENT
- QUEEN'S ROAD TYPICAL TREATMENT A: Pedestrian street between High St & Beechen Grove underpass
- QUEEN'S ROAD TYPICAL TREATMENT B: between Lord St & Loates Lane intersection
- QUEEN'S ROAD SQUARE TYPICAL TREATMENT
- MARKET STREET TYPICAL TREATMENT A: between High St & Exchange Rd
- MARKET STREET TYPICAL TREATMENT B: between Exchange Rd & Merton Rd
- CLARENDON ROAD TYPICAL TREATMENT A: one-way traffic towards High St
- CLARENDON ROAD TYPICAL TREATMENT B: two-way traffic
- ALBERT ROAD SOUTH TYPICAL TREATMENT A: with taxi rank
- ALBERT ROAD SOUTH TYPICAL TREATMENT B: without taxi rank



KING STREET TYPICAL TREATMENT



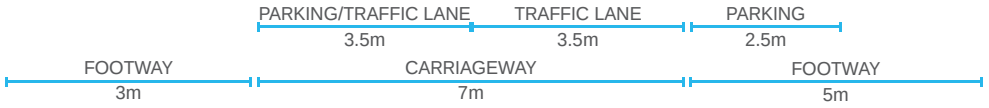
Materials

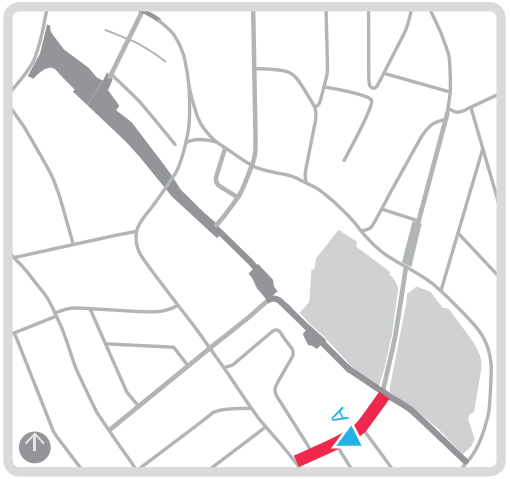
1. PAVING TYPE E: Tegula paving
2. BLACK ASPHALT
3. KERB TYPE C1: 100mm kerb face
4. LINE MARKINGS: White
5. LINE MARKINGS: Yellow

BOLLARDS: if required conservation bollards are to be used

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions



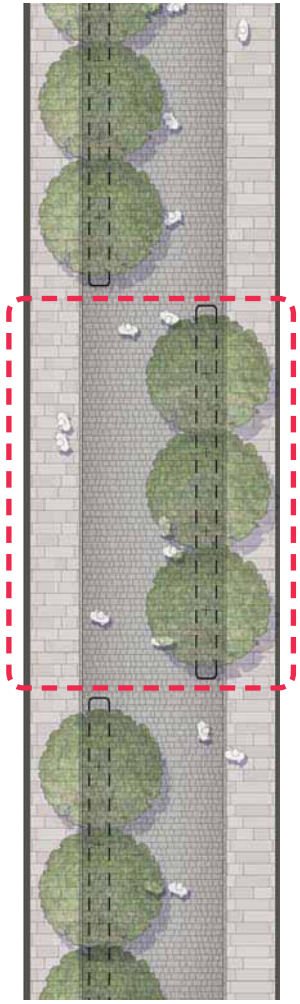


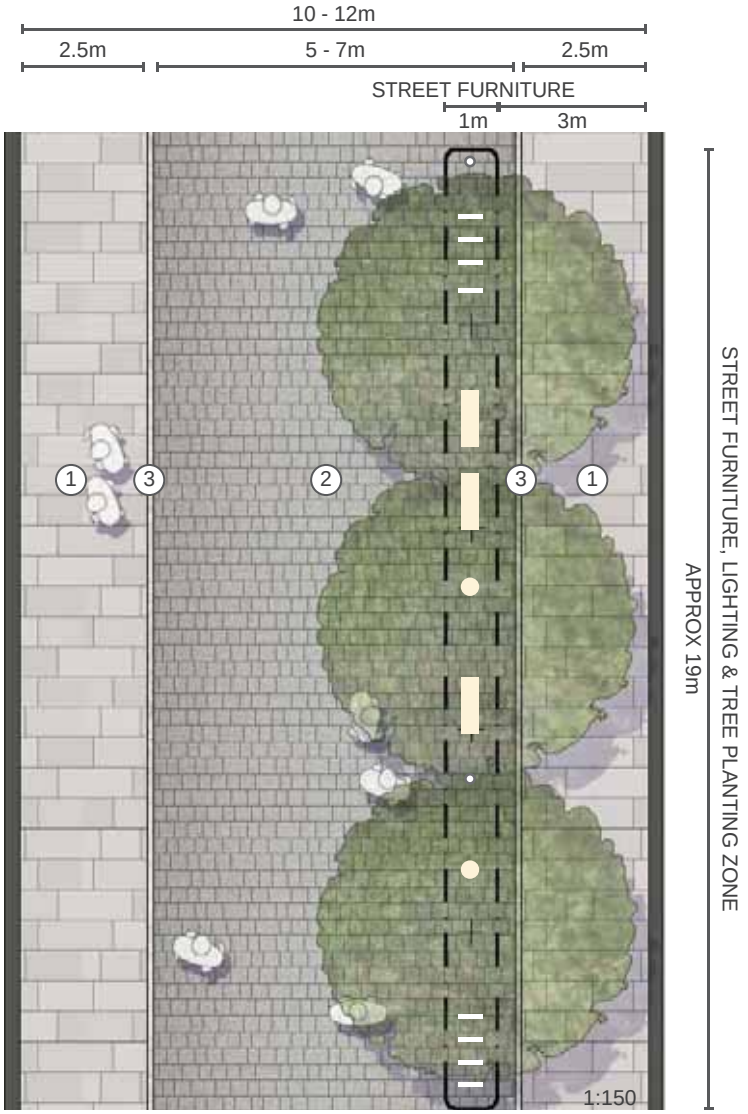
▲A EXISTING PEDESTRIAN STREETSCAPE

KING STREET:

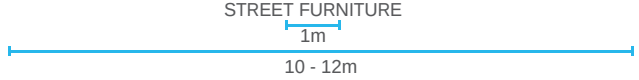
- Retain traffic lane widths, footway widths and parking bays
- Carriageway and parking bays to remain black asphalt
- Provide a continuous footway along entire length of street
- Replace asphalt & brick paving in footways with pennant grey Tegula paving: extend to building line wherever possible
- Replace concrete kerbs with 100mm granite kerbs
- Replace and rearrange street furniture as noted in Section 8 of this guide

QUEEN'S ROAD TYPICAL TREATMENT A





Approximate Existing Dimensions



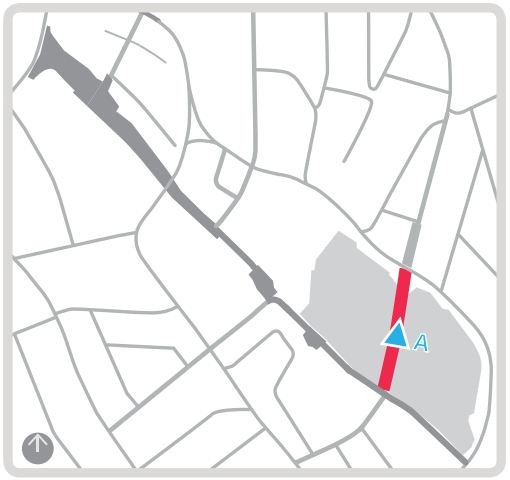
Materials

1. PAVING TYPE A: Yorkstone
2. PAVING TYPE E: Tegula paving
3. KERB TYPE C2: Flush kerb

NOTIONAL STREET FURNITURE & LIGHTING LAYOUT:

- STREET LIGHT B
- CYCLE STAND
- LITTER BIN
- BENCH A / SEAT A

Refer to Section 8 in this guide for further information on detailed design and specifications

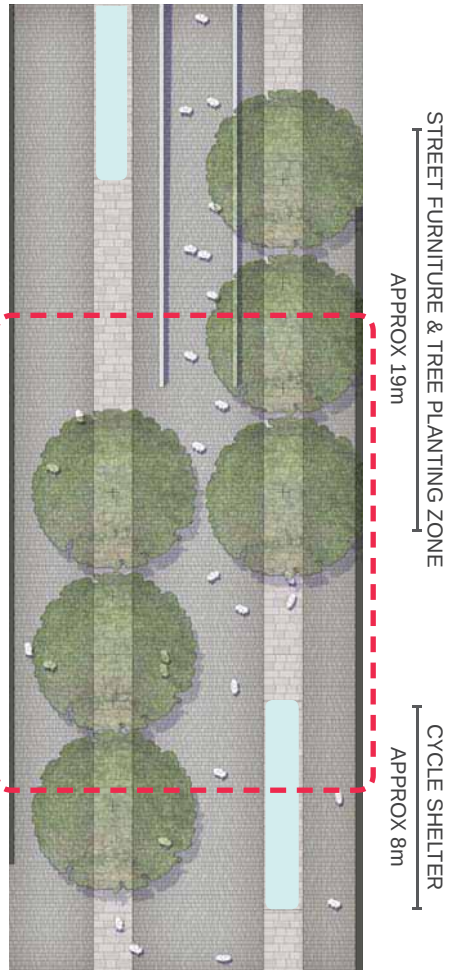


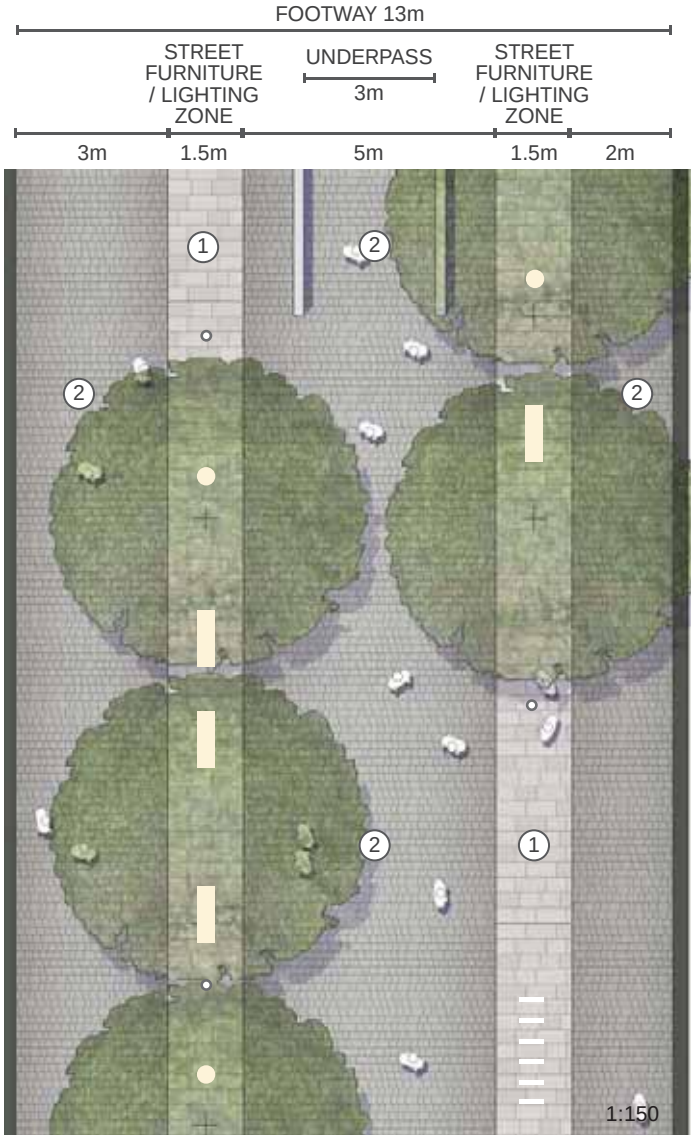
▲A EXISTING PEDESTRIAN STREETSCAPE

QUEEN'S RD BETWEEN HIGH ST & BEECHEN GROVE UNDERPASS

- Replace brick paving with Yorkstone and pennant grey Tegula paving; layout as per plan
- Install new street furniture and organise into smaller groups, staggered on either side of the central axis
- Add small trees where possible, refer to tree planting guidelines in Section 8
- Replace and rearrange street furniture as noted in Section 8 of this guide

QUEEN'S ROAD SQUARE





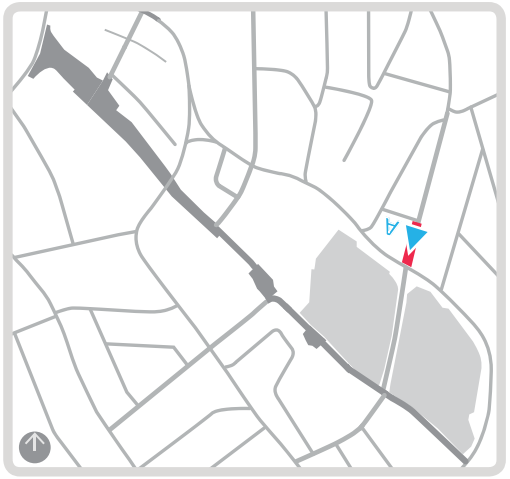
Materials

1. PAVING TYPE A: Yorkstone
2. PAVING TYPE E: Tegula paving

NOTIONAL STREET FURNITURE & LIGHTING LAYOUT:

- STREET LIGHT B
- LITTER BIN
- BENCH A / SEAT A
- CYCLE STANDS

Refer to Section 8 in this guide for further information on detailed design and specifications

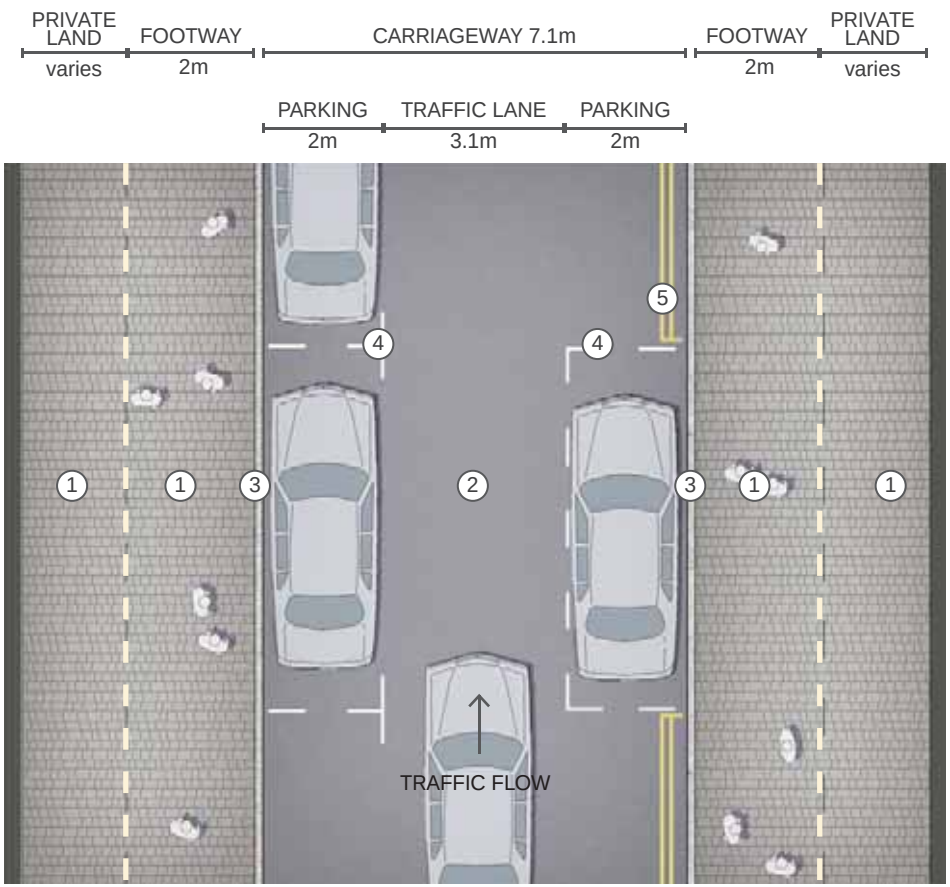


▲A EXISTING PEDESTRIAN SQUARE

QUEEN'S SQUARE (BETWEEN BEECHEN GROVE UNDERPASS & LORD ST):

- Remove defined pathway and repave square with pennant grey Tegula paving and Yorkstone bands
- Install new street furniture and organise into smaller groups, staggered on either side of the central axis
- Add small trees where possible, refer to tree planting guidelines in Section 8
- Replace and rearrange street furniture as noted in Section 8 of this guide

QUEEN'S ROAD TYPICAL TREATMENT B



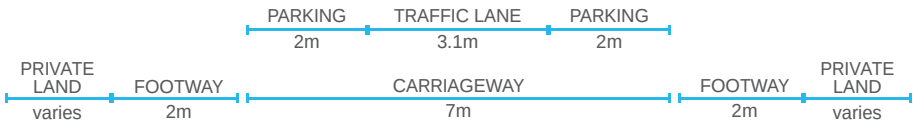
Materials

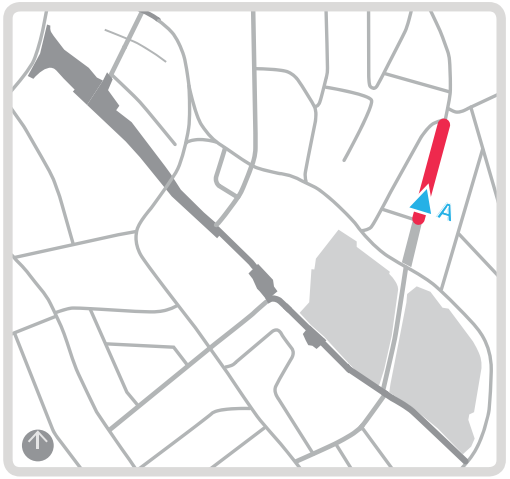
1. PAVING TYPE E: Tegula paving
2. BLACK ASPHALT
3. KERB TYPE C1: 100mm kerb face
4. LINE MARKING: White
5. LINE MARKING: Yellow

BOLLARDS: if required conservation bollards are to be used

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions



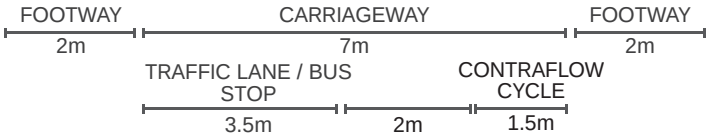


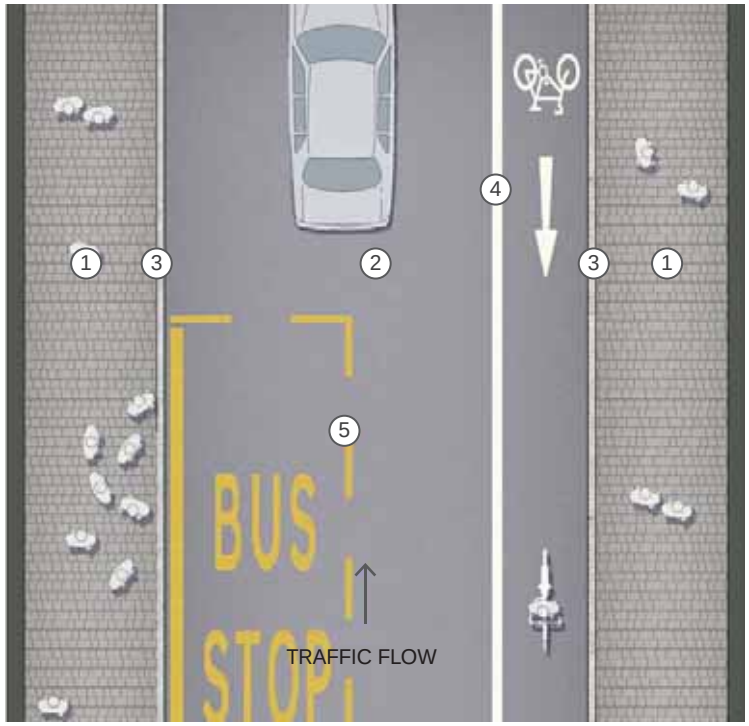
A EXISTING STREETSCAPE

QUEEN'S RD BETWEEN LORD ST & LOATES LN INTERSECTION:

- Retain traffic lane widths, footway widths & parking bays
- Remove all unit paving within the carriageway & replace with black asphalt
- Replace concrete kerbs with 100mm granite kerbs
- Red Tegula paving in footways to be removed and replaced with pennant grey as the red units fade over time. Extended paving to building line wherever possible
- Replace and rearrange street furniture as noted in Section 8 of this guide

MARKET STREET TYPICAL TREATMENT A





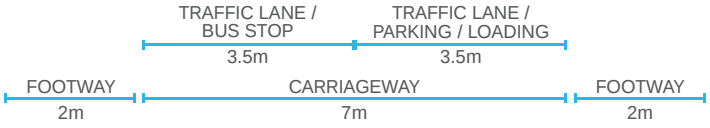
Materials

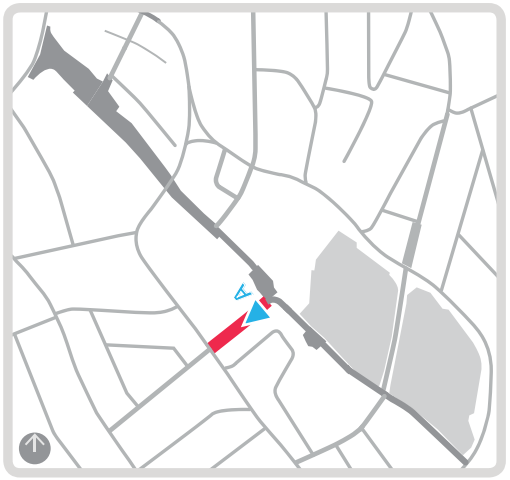
1. PAVING TYPE E: Tegula paving
2. BLACK ASPHALT
3. KERB TYPE C1: 100mm KERB FACE
4. LINE MARKINGS: White
5. LINE MARKINGS: Yellow

BOLLARDS: if required conservation bollards are to be used

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions



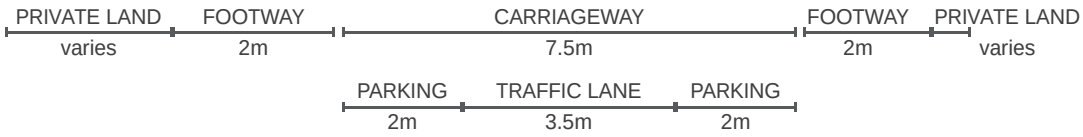


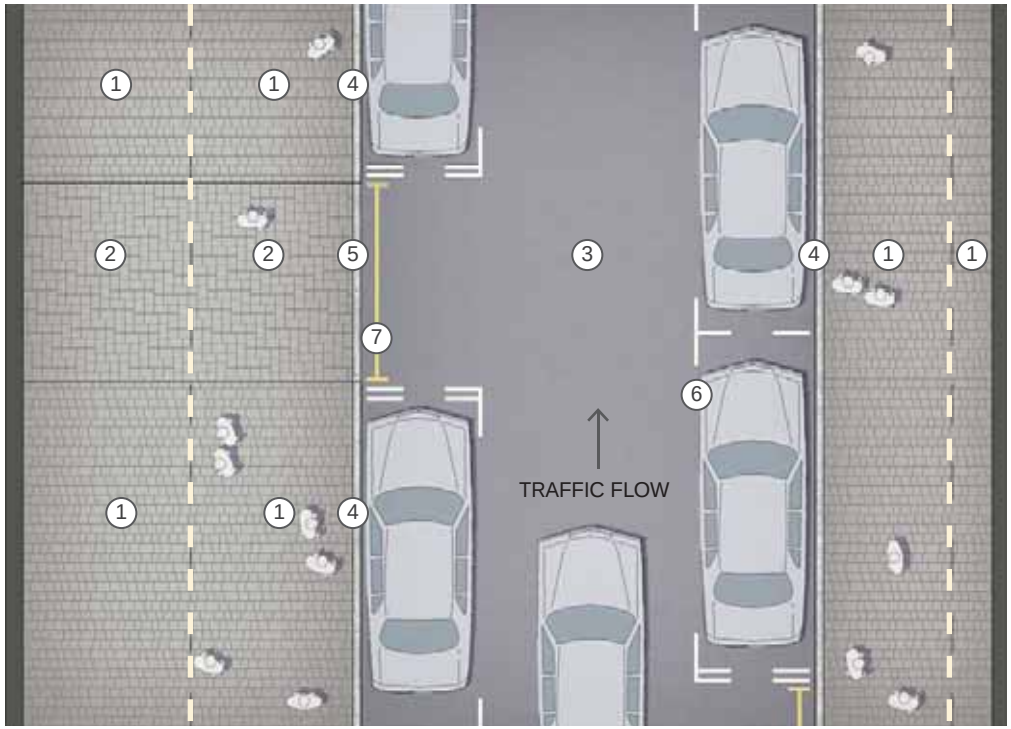
A EXISTING STREETSCAPE

MARKET ST BETWEEN HIGH ST & EXCHANGE RD

- Retain traffic lane widths, footway widths, parking bays, bus stop and granite kerbs
- Remove unit paving and green painted asphalt within carriageway & replace with black asphalt
- Brick paving in footways to be replaced with pennant grey Tegula paving: extend to building line wherever possible
- Replace and rearrange street furniture as noted in Section 8 of this guide

MARKET STREET TYPICAL TREATMENT B



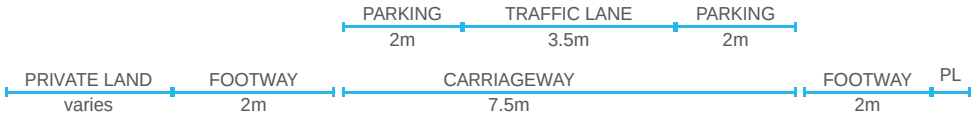


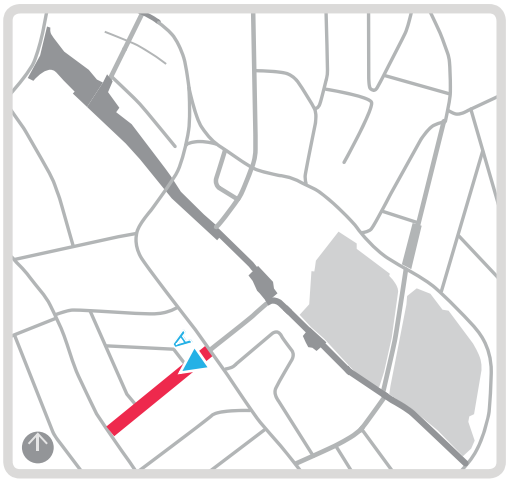
Materials

1. PAVING TYPE E: Tegula paving
2. VEHICULAR CROSS OVER: PAVING TYPE E: Tegula paving
3. BLACK ASPHALT
4. KERB TYPE A: 100mm kerb face
5. KERB TYPE B2: Flush kerb
6. LINE MARKINGS: White
7. LINE MARKINGS: Yellow

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions



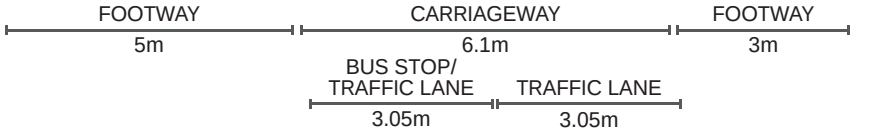


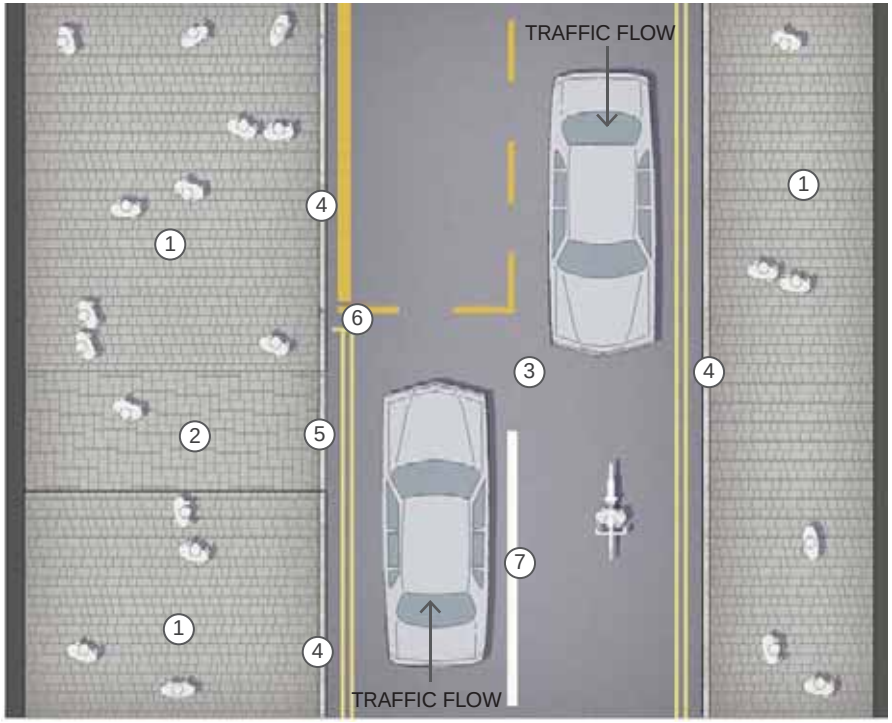
▲A EXISTING STREETSCAPE

MARKET ST BETWEEN EXCHANGE RD & MERTON RD:

- Traffic lane width, footway widths & parking bays to be retained
- Carriageway to remain black asphalt
- Footways to be re-paved in pennant grey Tegula paving: extend to building line wherever possible
- Driveway crossovers to be re-paved in pennant grey Tegula paving laid in 90 degree herringbone bond
- Replace and rearrange street furniture as noted in Section 8 of this guide
- Private land works to be undertaken by agreement with the owners. Funding/ ownership/future maintenance will need to be addressed before paving works can be implemented on private land

CLARENDON ROAD TYPICAL TREATMENT A (two way traffic)



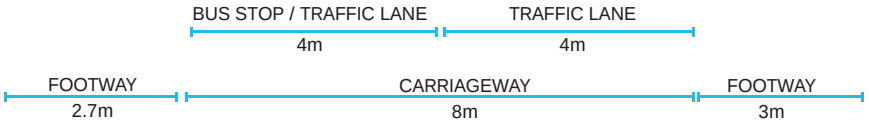


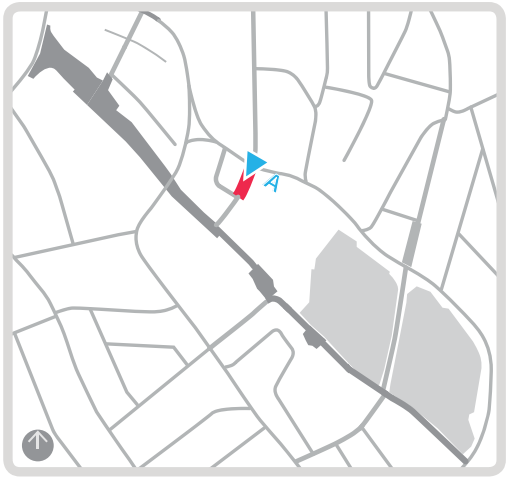
Materials

1. PAVING TYPE E: Tegula paving
2. CROSS OVERS: PAVING TYPE E: Tegula paving
3. BLACK ASPHALT
4. KERB TYPE C1: 100mm kerb face
5. KERB TYPE C2: Flush kerb
6. LINE MARKINGS: Yellow
7. LINE MARKINGS: White

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions



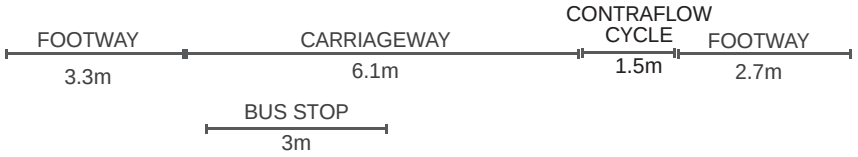


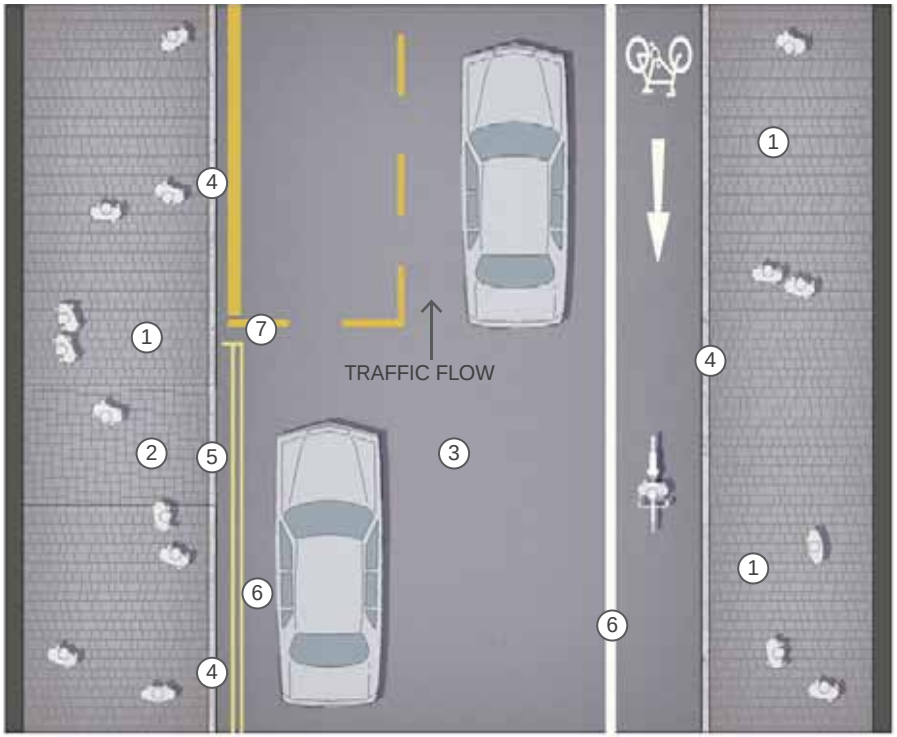
▲A EXISTING STREETSCAPE

CLARENDON RD TWO-WAY TRAFFIC TOWARDS BEECHEN GROVE:

- Reduce carriageway to a constant width for two lanes, and widen eastern footway
- Retain granite kerbs
- Asphalt footways to be replaced with pennant grey Tegula paving: extend to building line wherever possible
- Driveway crossovers to be re-paved in pennant grey Tegula paving laid in 90 degree herringbone bond
- Replace and rearrange street furniture as noted in Section 8 of this guide

CLARENDON ROAD TYPICAL TREATMENT B (one way traffic)



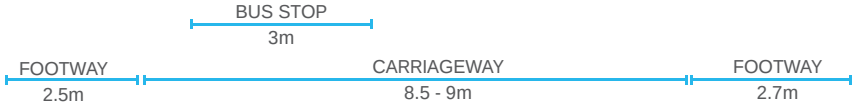


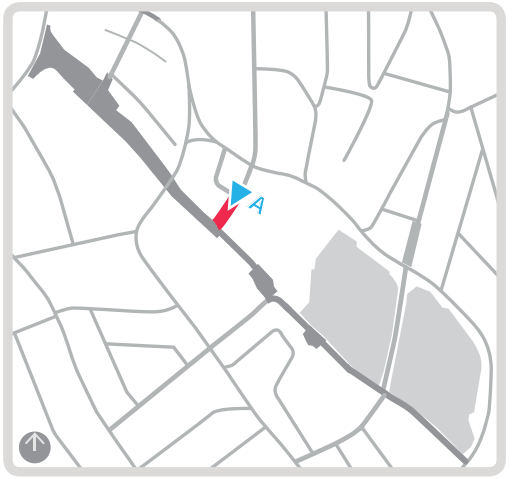
Materials

1. PAVING TYPE E: Tegula paving
2. CROSS OVERS: PAVING TYPE E: Tegula paving
3. BLACK ASPHALT
4. KERB TYPE C1: 100mm kerb face
5. KERB TYPE C2: FLUSH
6. LINE MARKINGS: White
7. LINE MARKINGS: Yellow

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions





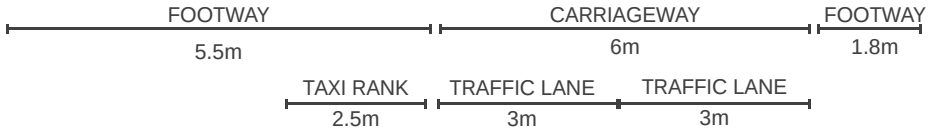
A EXISTING STREETSCAPE

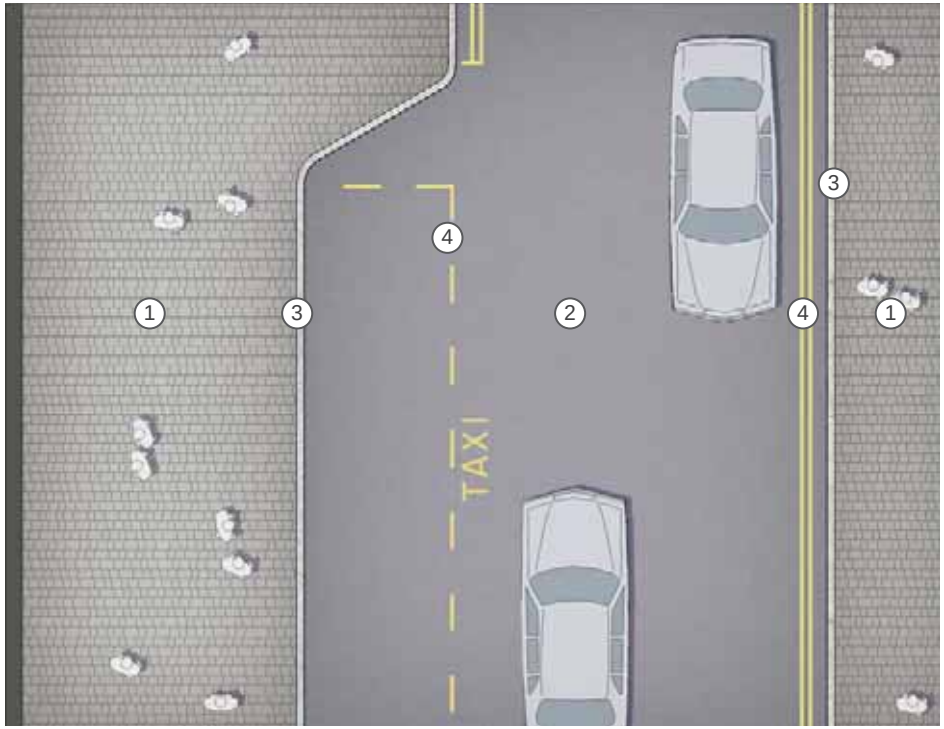
CLARENDON RD ONE-WAY TRAFFIC TOWARDS HIGH ST

- Reduce carriageway to a constant width for two lanes and a contra flow cycle lane, and widen eastern footway if space permits
- Retain granite kerbs
- Asphalt footways to be replaced with pennant grey Tegula paving: extend to building line wherever possible
- Driveway crossovers to be re-paved in pennant grey Tegula paving laid in 90 degree herringbone bond
- Replace and rearrange street furniture as noted in Section 8 of this guide

NOTE: If it is proposed to make Clarendon Road one way along its whole length a feasibility study should be undertaken. If deemed possible this treatment should also be used for the northern section of Clarendon Road.

ALBERT ROAD SOUTH TYPICAL TREATMENT A



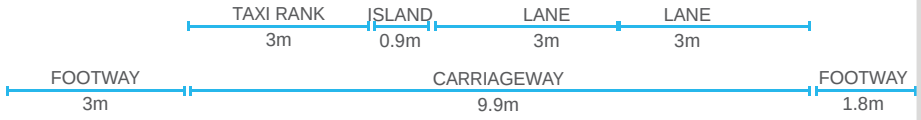


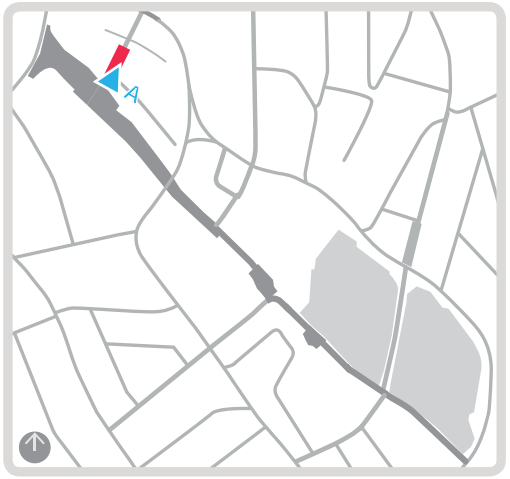
Materials

1. PAVING TYPE E: Tegula paving
2. BLACK ASPHALT
3. KERB TYPE C1: 100mm kerb face
4. LINE MARKINGS: Yellow

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions



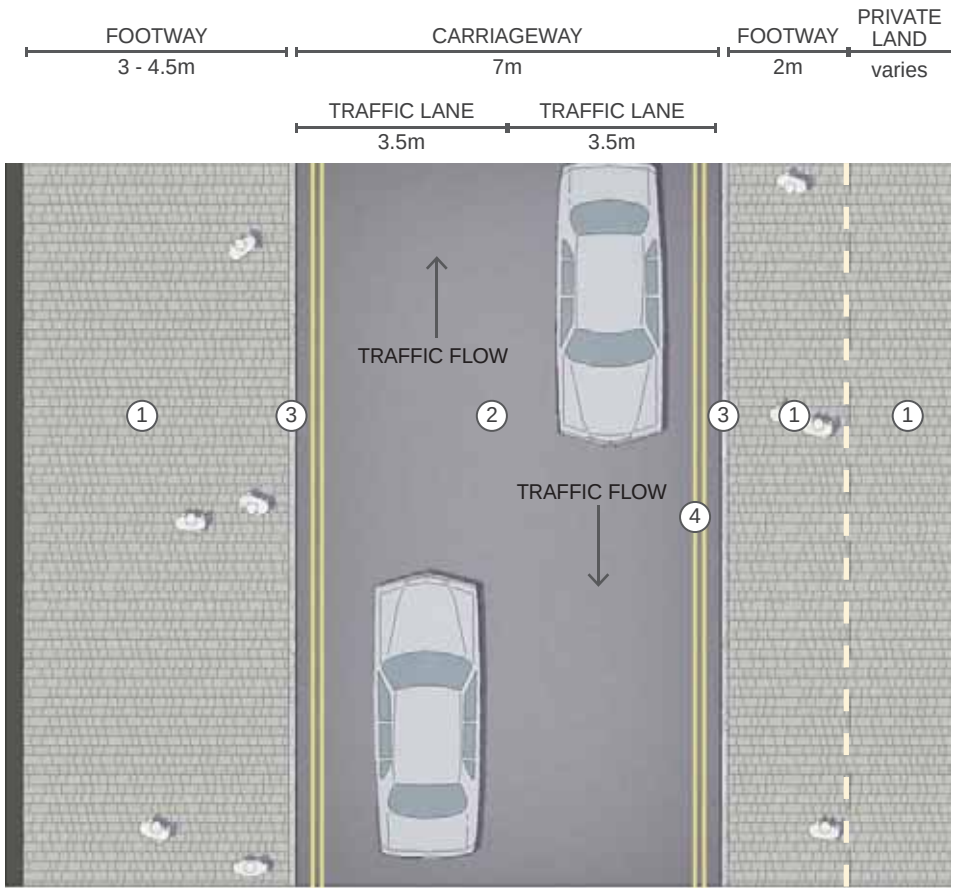


A EXISTING STREETSCAPE

ALBERT RD SOUTH - WITH TAXI RANK:

- Raised concrete island between carriageway & taxi rank to be removed
- Retain traffic lane widths
- Taxi rank bay to be 2.5m wide
- Concrete kerbs to be replaced with granite kerbs
- Asphalt footways to be replaced with pennant grey Tegula paving: extend to building line wherever possible
- Replace and rearrange street furniture as noted in Section 8 of this guide

ALBERT ROAD SOUTH TYPICAL TREATMENT B

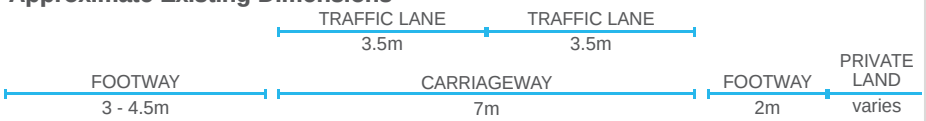


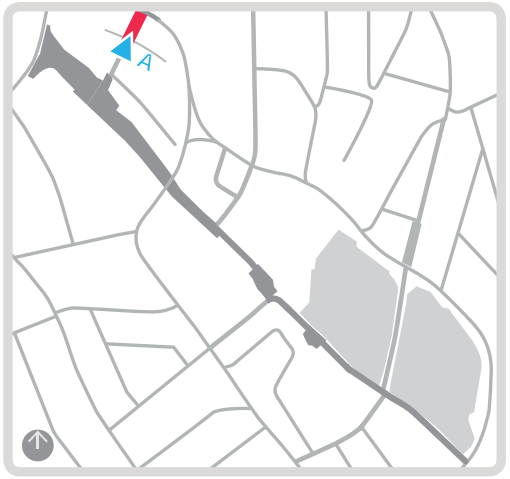
Materials

1. PAVING TYPE E: Tegula paving
2. BLACK ASPHALT
3. KERB TYPE C1: 100mm kerb face
4. LINE MARKINGS: Yellow

Refer to Section 8 in this guide for further information on detailed design and specifications

Approximate Existing Dimensions





▲A EXISTING STREETSCAPE

ALBERT RD SOUTH: WITHOUT TAXI RANK:

- Retain traffic lane widths & footway widths
- Concrete kerbs to be replaced with 100mm high granite kerbs
- Asphalt footways to be replaced with pennant grey Tegula paving: extend to building line wherever possible
- Replace and rearrange street furniture as noted in Section 8 of this guide

Section 7: Alleyways Treatments

General Guidelines

The general design guidelines to be applied to the Alleyways:

Primary Alleyways:

- Paving material to match adjacent paving on the High Street or The Parade.
- Paving to extend across the whole width of the alleyway from wall to wall.
- Provide a new bollard if required to restrict vehicular use.

Secondary Alleyways:

- Paving material to be asphalt and separated by a flush kerb from adjacent paving on the High Street or The Parade.
- Provide a new bollard if required to restrict vehicular use.

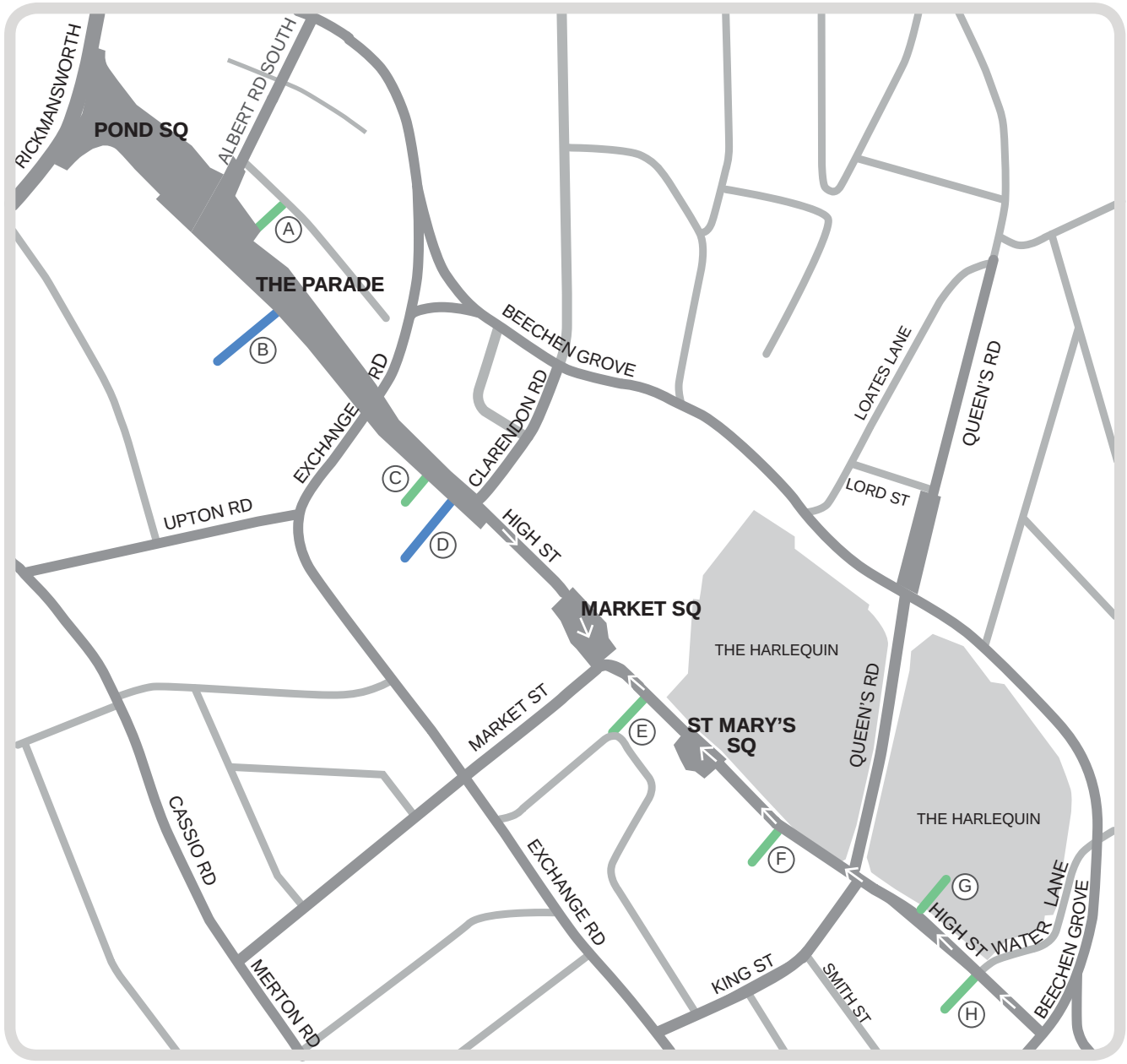
There are a number of different conditions occurring along each alleyway. The following typical treatments illustrate how the objectives and principles for Watford's town centre are to be applied to the varying existing conditions.

It should be noted that these plans are intended as a guide only that set out the principles, and that detailed design will be required to successfully implement these concepts.

KEY

PRIMARY ALLEYWAYS
- (A) The Parade / Sainsbury's Alleyway
- (C) 14 The Parade/ Wellstones Alleyway
- (E) High St / New Street Alleyway
- (F) High St / St Mary's Alleyway
- (G) Carey Pace
- (H) Crown Passage

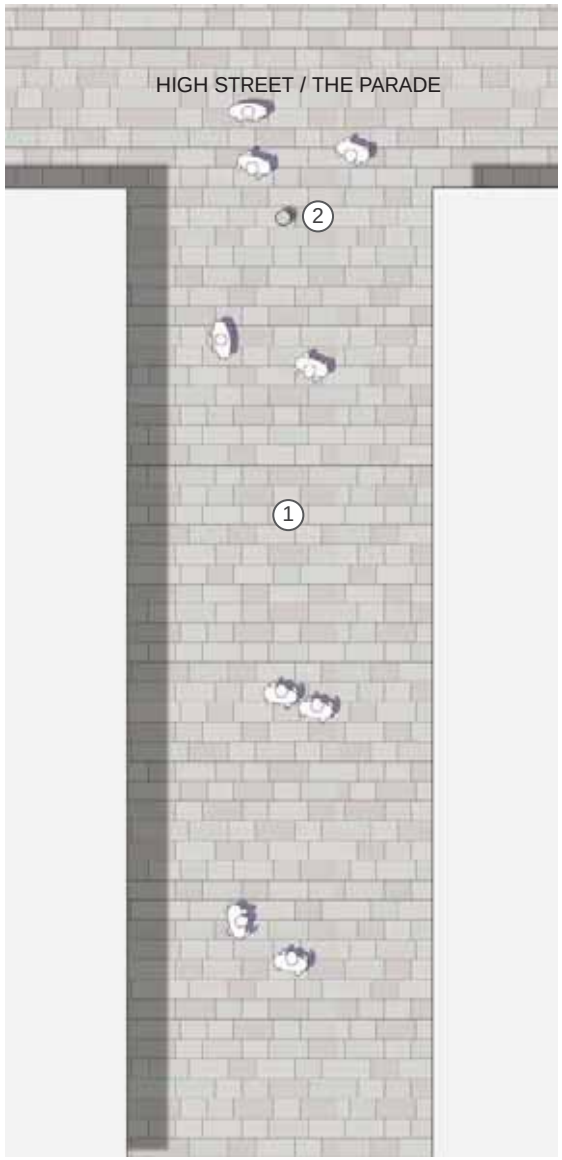
SECONDARY ALLEYWAYS
- (B) Gade Access Road
- (D) 2 The Parade / Wellstones Alleyway



BDP.

Alleyways Part Plans

PRIMARY ALLEYWAY TYPICAL TREATMENT



Materials

1. PAVING TYPE A or C: Yorkstone or Mixed coloured granite flags to match adjoining section of High St or The Parade
2. BOLLARD: if required

Refer to Section 8 in this guide for further information on detailed design and specifications

PRIMARY ALLEYWAY:

- Footways to be replaced with natural stone paving to match adjoining section of High St or The Parade
- Replace and rearrange street furniture as noted in Section 8 of this guide

Note: Carey Place (Alleyway G) cobbles are to be retained or replaced with natural stone to match adjacent High Street Paving

SECONDARY ALLEYWAY TYPICAL TREATMENT

Materials

1. PAVING TYPE F: Pedestrian Asphalt
2. KERB TYPE B2: Flush Kerb
3. BOLLARD: if required

Refer to Section 8 in this guide for further information on detailed design and specifications

SECONDARY ALLEYWAY:

- Footways to be replaced with Pedestrian asphalt
- Install flush kerb between alleyway and High St /The Parade paving
- Replace and rearrange street furniture as noted in Section 8 of this guide

Section 8: Detailed Design and Specifications

Getting the detail right

The detailed design, materials, elements, general arrangement, implementation of schemes and ongoing maintenance is what helps make good public realm that is attractive, durable and comfortable. The key considerations required to achieve this are noted below

- Quality materials, workmanship and detailing coupled with a stringent maintenance and management regime help to build and improve the community's sense of ownership, civic pride and respect for their public realm.
- Good workmanship in the fine detail of schemes can create all the difference to the finished product.
- Suitable surveys should be commissioned prior to beginning detailed design to ensure the proposed scheme is feasible, as it is far easier and cost effective to change things on paper than on a construction site where solutions may be limited by already constructed work.
- Co-ordination with utility companies should be begun as soon as possible to identify if there are any clashes and to ensure any enabling or diversionary works are carried out when most suitable to the works programme.

More detailed guidance regarding arrangement and material requirements are noted on the following pages.

New Road Brighton

Paving, Kerbs and Gullies

To achieve consistency across the Town Centre, paving materials must be selected from the range specified within this guide. Other materials may be used in special areas on approval from the adopting authority, however they must be complimentary to the town centres materials and furniture palette.

The materials used and their build-ups are to be in accordance with current legislation, including:

- Natural stone properties are to be in accordance BS EN 1341.
- Tactile paving should be used in accordance with BS EN 1339:2003, DD CEN/TS 15209:2008 and Dft tactile paving guidelines. The appropriate colour should be used relevant to the status of the pedestrian crossing.
- New build works should also consider requirements under part M and K of The Building Regulation and Design of buildings and their approaches to meet the needs of disabled people - Code of practice BS 8300:2009
- The design of build-up and installation surfaces are to be in accordance with BS 7533, DMRB HD 39/01 and DMRB HD26/06

Paving materials used must also:

- Have the correct physical properties conducive to an urban environment.
- Be available, cost effective and maintainable (capable of being cleaned with a high powered water jet).

Paving Principles

- All surfaces must be built suitable for vehicle over run, even if deemed to be pedestrian.
- All surfaces must be capable of being cleaned with a high powered water jet.
- Existing Yorkstone paving of an acceptable standard and in good condition is to be retained or lifted and re-used.
- Other existing paving not required in the town centre that is in good condition should be lifted and considered for reuse elsewhere within the borough.
- Pavement sealers are recommended if the following cleansing regime is used: a weekly mechanical sweep with water on all hard paved areas using soft nylon brushes and must only be used when water (ideally warm water) is present as part of the cleaning process. No additives are necessary. Stubborn stains should be removed by mix of warm water with a mild detergent which has a neutral ph. It is not recommended to carry out any annual clean or any high pressure water jetting. If the above cleaning regime that is not employed then pavement sealers are not generally recommended.
- Paving units should be laid carefully around footings with as few cuts to pavers as possible and a maximum joint of 10mm between furniture and paving units.
- A high level of workmanship and detailing should be applied. Special care should be taken particularly when laying paving around footings and where different materials meet.
- Paving units are not to be cut smaller than 1/3 their specified size.

Build-ups

- Existing sub bases can be used if the CBR obtains 30% or more at formation level. Existing sub base reduces waste, saves money on importing new materials and reduces risk associated with excavating buried apparatus.
- Existing sub bases should be used where appropriate strengths are achieved to reduce waste and save money importing new materials.
- Build up thickness to be based on traffic assessment HD24 and pavement design HD26

Drainage

- Gaps in drainage gully gratings are to have restricted openings to ensure they are suitable for pedestrian areas but still maintain the required Waterway area as defined by HCC Roads in Hertfordshire.
- Paving surfaces should have appropriate crossfall and longfall as defined by BS7533 part 3 for paving.
- Asphalt surfaces should have appropriate crossfall and longfall as defined by BS594-2:2003.

Carriageway kerb line

East Street Shoreham-by-Sea

PAVEMENT TYPE A

Use: Pedestrian paving in the main streets, secondary streets and alleyways

Product: Yorkstone

Colour: Mottled, to match existing

Finish: Diamond Sawn to all sides

Size: Random lengths. Existing sizes include: 400 x 400mm, 500 x 750mm, 400 x 650mm, 500 x 800mm, 400 x 500mm

Thickness: 50mm

Supplier: To be approved by Hertfordshire County Council

Bond Pattern: Joints between courses are staggered

Suggested installation: (based on site category 3 and existing ground with min 5% CBR)

Pavers laid with 6mm joints and proprietary jointing material that meets BS 7533. Bonding agent to be applied to back of pavers and concrete slab. Pavers to be laid on 30mm proprietary laying course as per BS 7533 unless otherwise agreed by adopting authority, over a 150mm thick C32/40 concrete slab, and 220mm Type 1 sub-base.

PAVEMENT TYPE B

Use: Parking bays,loading bays and carriageways through squares in the main streets

Product: Granite Setts

Colour: Mid-grey

Finish: Flamed with sawn sides

Size: 100 x 200mm

Thickness: 50mm for parking and loading bays and 100mm in carriageways

Suppliers: To be approved by Hertfordshire County Council

Bond Pattern: Stretcher bond

Suggested installation: (based on site category 1 for carriageways and 3 for loading/parking bays and existing ground with min 5% CBR)

Setts laid with 10mm joints and proprietary jointing material that meets BS 7533. Bonding agent to be applied to back of pavers and concrete slab. Pavers to be laid on 30mm proprietary laying course as per BS 7533 unless otherwise agreed by adopting authority, over a 150mm thick C32/40 concrete slab, and 220mm Type 1 sub-base.

PAVEMENT TYPE C

Use: Pedestrian paving in main streets pedestrianised areas and alleyways

Product: Granite Flags

Colour Mix: 50% Beige, 35% Silver Grey, 15% Light Pink

Finish: Fine Picked with sawn sides

Size Mix: 400 x 200mm, 400 x 400mm, 400 x 600mm

Thickness: 50mm

Suppliers: To be approved by Hertfordshire County Council

Bond Pattern: 400mm wide courses, joints between courses are staggered

Suggested installation: (based on site category 3 and existing ground with min 5% CBR)

Pavers laid with 6mm joints and proprietary jointing material that meets BS 7533. Bonding agent to be applied to back of pavers and concrete slab. Pavers to be laid on 30mm proprietary laying course as per BS 7533 unless otherwise agreed by adopting authority, over a 150mm thick C32/40 concrete slab, and 220mm Type 1 sub-base.

(if category 2 road do the same as above but use 60mm thick pavers and 180mm C32/40 concrete slab)

PAVEMENT TYPE D

Use: Special areas of pedestrian paving, such as the events space, in the main streets

Product: Natural stone

Colour mix, finish and thickness depends on material and to be approved by adopting authority

Size: 250 x 250mm

Suppliers: To be approved by Hertfordshire County Council

Bond Pattern: Stack bond

Suggested installation: (based on site category 3 and existing ground with min 5% CBR)

Pavers laid with 6mm joints and proprietary jointing material that meets BS 7533. Bonding agent to be applied to back of pavers and concrete slab. Pavers to be laid on 30mm proprietary laying course as per BS 7533 unless otherwise agreed by adopting authority, over a 150mm thick C32/40 concrete slab, and 220mm Type 1 sub-base.

PAVEMENT TYPE E

Use: Pedestrian paving in secondary streets

Product: Tegula Concrete Setts, Trafficable

Colour: Pennant Grey

Size: mix of 120, 160, 240mm x 160mm gauge

Thickness: 60mm for pedestrian areas and 80mm for vehicular crossovers

Suppliers: To be approved by Hertfordshire County Council

Bond Pattern: Staggered bond in pedestrian areas and 90 degree herringbone in vehicular crossovers

Suggested installation: (based on heavy vehicle overrun spec as per DMRB HD 39/01 and existing ground with min 5% CBR)

Pavers butt jointed laid on 30mm bedding sand over 90mm DBM and 270mm type 1 sub-base. DBM layer to have regular weepholes punched through layer and lines with a plastic pipe at 1.5m centres, filled with gravel and covered by a geotextile patch.

PAVEMENT TYPE F

Use: Pedestrian paving in secondary alleyways

Product: Asphalt to BSEN 13108-4

All bituminous materials to comply with BS584987 and specification for highways work 900 series

Suggested Installation: (based on site category 4 and existing ground having min 5% CBR)

Granular sub base: Highways agency Type 1 unbound mixture compacted thickness 300mm.

Base/binder course: AC14 Dense Bin 100/150, compacted thickness: 80mm.

Surface course: AC6 Dense 100/150 conform to EN13108:1 and PD6691:Annex B. Min PSV50, Max AAV16.

TACTILE PAVING TYPE A

Use: Natural stone pedestrian areas

Tactile A1: Mottled Yorkstone (to match existing) blister or corduroy paving for use in Yorkstone paving areas

Tactile A2: Mid grey granite blister or corduroy paving for use in granite paving areas

Size: 400 x 400mm

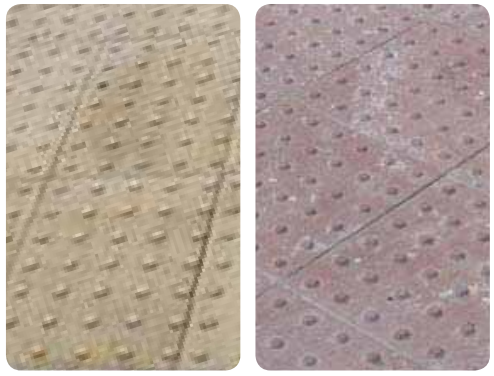
Thickness: 50mm

Suppliers: To be approved by Hertfordshire County Council

Bond Pattern: Stack bond

Suggested installation: (based on site category 3 and existing ground with min 5% CBR)

Pavers laid with 6mm joints and proprietary jointing material that meets BS 7533. Bonding agent to be applied to back of pavers and concrete slab. Pavers to be laid on 30mm proprietary laying course as per BS 7533 unless otherwise agreed by adopting authority, over a 150mm thick C32/40 concrete slab, and 220mm Type 1 sub-base.



TACTILE PAVING TYPE B

Use: In Tegular paving areas

Product: Blister paving

Colour: Buff for uncontrolled crossings, red for controlled crossings

Size: 400 x 400mm

Thickness: 65mm

Suppliers: To be approved by Hertfordshire County Council

Bond Pattern: Stack bond.

Suggested installation: (based on heavy vehicle overrun spec as per DMRB HD 39/01 and existing ground with min 5% CBR)

Pavers butt jointed laid on 25mm bedding sand over 90mm DBM and 270mm type 1 sub-base. DBM layer to have regular weepholes punched through layer and lines with a plastic pipe at 1.5m centres, filled with gravel and covered by a geotextile patch.

BLACK ASPHALT

Use: Carriageways

Product: Hot rolled Asphalt paving to Highways Agency (HA) specification for highway works and HHCC standard specifications. Standard to BSEN 13108-8

All bituminous materials to comply with BS584987 and specification for highways work 900 series

Suggested Installation: (based on site category 1 and existing ground having min 5% CBR)

Granular sub base: Highways agency Type 1 unbound mixture compacted thickness 200mm.

Base: AC32 HDM, Paving grade: 40/60, Compacted thickness: 60mm.

Binder course: AC20 HDM, paving grade 40.60, compacted thickness 40mm.

Reclaimed content: Standards to BSEN 13108-8, value maximum surface course 10%, other courses 50%

Surface treatment: PCC 14/20

SUBWAY FOOTWAY

Use: Rickmansworth Road subway footway and cycle lane

Footway Product: Black/ Dark Grey proprietary anti slip coating to be applied over the existing surface.

Cycle Lane Product: Green proprietary anti slip coating to be applied over the existing surface.

Suppliers: To be approved by Hertfordshire County Council

Suggested Installation: All required repairs to be carried out to the existing surface and proprietary anti slip surfacing coats to be installed to manufacturers specification.

LINE MARKINGS

Use: Required road markings in carriageways

Product: Hot applied thermoplastics lines

Colours: White and primrose yellow (BSC No.310) in accordance with Hertfordshire County Council standards and The Traffic Signs Regulations and General Directions 2002

Markings: Types, widths and layouts must be in accordance with the Department for Transport 'Traffic Signs Manual', Chapter 5: Road Markings. Centre lines should be omitted whenever possible.

Parking restriction lines: 50mm wide and BS colour no. 310 Primrose

Suggested Installation: To manufacturers specification

KERB TYPE A

Use: Carriageway raised kerb

Product: 100mm granite kerb face

Size: 300mm wide kerb x 300mm deep x 900mm long

Colour: Silver-grey

Finish: Fine Picked with 10mm bullnose to all exposed edges

Specials: Quadrant, radius and transition kerbs to be used as required.

Suppliers: To be approved by Hertfordshire County Council

Suggested Installation: ST2 concrete foundation and haunching in accordance with BS 7533 part 6 and 7 for footing design. Kerb to be 100mm high.

KERB TYPE B

Use: Main streets carriageway

Kerb B1: 25mm kerb face between the carriageway and loading/parking bays.

Kerb B2: Flush kerb between loading/ parking bays and the footway.

Product: Granite Kerb

Size: 300mm wide kerb x 200mm deep x 900mm long

Colour: Silver-grey

Finish: Fine Picked with 10mm bullnose to all exposed edges

Specials: Quadrant, radius & transition to be used as required.

Suppliers: To be approved by Hertfordshire County Council

Suggested Installation: ST2 concrete foundation and haunching in accordance with BS 7533 part 6 and 7 for footing design.

Kerb B1 to be 25mm high and kerb B2 to be flush.

KERB TYPE C

Use: Secondary streets carriageways

Kerb C1: 100mm kerb face between the carriageway and footway.

Kerb C2: 25mm kerb face at entrances to vehicular cross overs.

Product: Granite Kerb

Size: 150mm wide kerb x 300mm deep x 900mm long

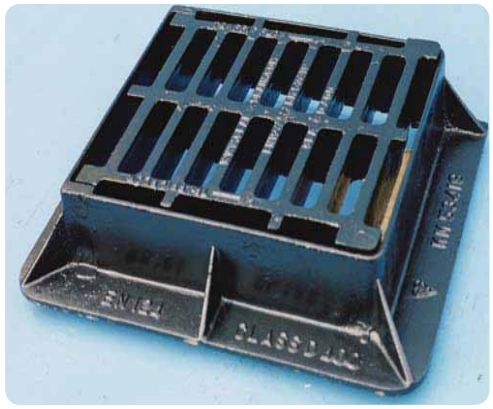
Colour: Silver-grey

Finish: Fine Picked with 10mm bullnose to all exposed edges

Specials: Quadrant, radius & transition to be used as required.

Suppliers: To be approved by Hertfordshire County Council

Suggested Installation: ST2 concrete foundation and haunching in accordance with BS 7533 part 6 and 7 for footing design. Kerb C1 to be 100mm high and kerb C2 to be flush.



DRAINAGE GRATE TYPE A

Use: In carriageways

Product: Ductile Iron Hinged Gully Grating and frame CLKS 180 KMD

Class: BS EN 124: D400

Waterway area: min 1000cm2

Colour: Black bitumen painted

Size: 450 x 400mm

Suppliers: Clark Drain (ph: 01733 765 316)

Other suppliers to be equal and approved by Hertfordshire County Council

Suggested Installation: To manufacturers specification

DRAINAGE GRATE TYPE B

Use: In pedestrian areas

Product: Ductile Iron Hinged Gully Grating and frame CLKS 231 KMD, grate square grid with openings approx 35 x 40mm

Class: BS EN 124: D400

Colour: Black bitumen painted

Size: 450 x 400mm

Suppliers: Clark Drain (ph: 01733 765 316)

Other suppliers to be equal and approved by Hertfordshire County Council

Suggested Installation: To be aligned with paving bond and installed to manufacturers specification

Street Furniture, Lighting and Trees

To achieve consistency across the Town Centre, street furniture and elements must be selected from the range specified within this guide. Other elements may be used in special areas on approval from the adopting authority, however they must be complimentary to the town centres materials and furniture palette.

The furniture and elements used in the town centre are to:

- Create a coordinated palette of simple and elegant forms, using steel and timber as the primary materials.
- Furniture is to be robust, affordable and economical to maintain.
- All metal elements are to be galvanised and finished in paint colour RAL 7016.
- All furniture is to be root mounted.

General Arrangement

The general arrangement of elements within the public realm have a significant impact on the way spaces are perceived and used. To ensure Watford's town centre is a functional and comfortable place for those using it the following points should be applied:

- Street furniture must be positioned in a rational way to ensure easy pedestrian movement, create uncluttered spaces and respond to the function of the space.
- Excessive use of street furniture should be avoided and used only where it is needed.
- Street furniture should generally be set back a minimum of 600mm from the kerb face (900mm minimum for cycle stands) to prevent damage caused by vehicles.
- A minimum 2m wide footway clear zone must be maintained for unhindered pedestrian movement.
- The positioning of street furniture should be consistent along the street and preferably throughout the town centre, so that obstructions can be more readily anticipated by people with visual impairments.
- Bollards, street lights, seating and signs are to be root mounted. Bins are to be free standing with an internal ballast.

Seating

- Seating should be provided in places where people are likely to want to sit along the street, and in clusters where people congregate, such as the squares and The Parade.
- Seating should be provided in a range of spaces such as in the sun, in the shade, in groups, alone, close to activity or somewhat removed from activity.
- Seating should be located where there is good lighting and natural surveillance.
- In spaces where people congregate, a range of seating should be provided to allow people to sit, perch or lounge.

Litter bins

- Litter bins should be located frequently in areas of high demand and seating areas. It is recommended that bins are offset at a minimum of 1m from seats.

Bollards

- The use of bollards should be avoided wherever possible, and only used to direct traffic where there is no kerb upstand. Where two or more bollards are required consider the use of bicycle stands in lieu of bollards to reduce street clutter.

Cycle stands

- Cycle stands should be located in groups at regular intervals along footways (maximum 50m intervals along the High Street), and a maximum of 50m from key destinations within the town centre such as public squares, shopping centres, department stores, supermarkets and popular pubs and cafes.
- Stands should be located where there is good lighting and natural surveillance to prevent theft.
- The layout of stands should ensure that parked cycles will not obstruct the footway clear zone.
- Cycle stands should be set 1200mm apart (1000mm minimum).
- The number of stands provided within the town centre should correlate with demand: over-supply should be avoided as well as under-supply.

Light Columns

- Light columns are to be spaced along streets to create uniform light levels that meet Hertfordshire County Council lux requirements for carriageways and footways.
- Feature lighting to be integrated into public art pieces if appropriate.

Trees

- Trees are to be planted 10-15m apart, located between underground services and in positions to ensure clear sightlines for motorists and CCTV cameras.
- Tree species should be selected for variation and interest throughout the year.

SEAT TYPE A
Use: Whole town centre

Product: Willenhall Steel Framed Seat
Supplier: Broxap (Ph: 0844 800 4085)
Code: BX14 4015-BP
Size: 1800mm (l) x 565mm (w) x 790mm (h)
Material/Finish/Colour:
- Galvanised steel with paint finish
- Hardwood timber slats

Special Requirements/Accessories:
- RAL 7016 30% gloss paint finish to all steel components

Suggested Installation: Root fixed, to manufacturer's specification

SEAT TYPE B
Use: Whole town centre

Product: Willenhall Steel Framed Bench
Supplier: Broxap (Ph: 0844 800 4085)
Code: BX14 4020-BP
Size: 1800mm (l) x 445mm (w) x 445mm (h)
Material/Finish/Colour:
- Galvanised steel with paint finish
- Hardwood timber slats

Special Requirements/Accessories:
- RAL 7016 painted finish to all steel components

Suggested Installation: Root fixed, to manufacturer's specification

BOLLARD
Use: Whole town centre, keep to a minimum and locate only where required
Product: Clapham Junction bollard BL208
Supplier: Marshalls (ph: 08704 112266)
Size: 1000mm high x 125mm diameter
Weight: 15kg
Material: Ferrocast polyurethane
Colour: RAL 7016
Special Requirements/ Accessories: Removable option available where required.

Suggested Installation:
Root fixed, to manufacturer's specification

CONSERVATION BOLLARD
Use: Only in areas as indicated on the typical arrangement plans
Product: Manchester BL428
Supplier: Marshalls (ph: 08704 112266)
Size: 1000mm high x 225mm diameter
Weight: 21kg
Material: Ferrocast polyurethane
Colour: RAL 7016

Suggested Installation:
Root fixed, to manufacturer's specification

LITTER BIN

Use: Whole town centre

Product: Strangford 120L Steel Hooded Litter Bin

Supplier: Unicorn Containers Limited (Ph: 08452 477 264)

Size: 120 litre capacity (but due to ballast actual capacity will be 110L)

Material: Metal

Colour: RAL 7016 powder coated

Special Requirements/Accessories: 50mm deep ballast base, quick release ash tray stubber plate, metal liner. Bin to have no markings including logos, words or gold banding.

Suggested Installation: Set carefully in the required location and orientation.

CYCLE STAND

Use: Whole town centre

Product: Sheffield cycle stand

Supplier: Marshalls (ph: 08704 112266)

Size: 800mm high x 750mm wide

Material: Ferrocast polyurethane

Colour: RAL 7016

Suggested Installation: Root fixed, to manufacturer's specification

STREET LIGHT TYPE A

Use: Main streets

Manufacturer: DW Windsor (ph: 01992 474600)

Column: 8m diameter 200mm dia parallel circular column. Linear column bracket with single arm with 42mm side entry. 50mm projection

Column Material/Finish/Colour:

- Galvanised steel
- Painted finish: Factory painted RAL colour 7016

Luminaire: Rio500, IP65 rated lantern with smooth 360 beam with horizontal cut-off using single 150W ceramic metal halide lamp with cool white 4000K colour temperature.

Accessories:

- Capacity to attach banners and festive light loading

Special Requirements/Accessories: Provision for festive lighting (for columns as indicated on Watford Borough Councils festive lighting plan) :

- Digital timers/switches to control the time the lights go on/off
- 2 no. brackets to fix the lighting units in place
- Niphan sockets installed at the top of the column for power to the lighting unit
- Fuse module and RCD protection

Suggested Installation: Root mounted to manufacturer's specification

STREET LIGHT TYPE B

Use: Secondary streets

Manufacturer: DW Windsor (ph: 01992 474600)

Column: 6m parallel 150mm dia circular column.

Column Material/Finish/Colour:

- Galvanised steel
- Painted finish: Factory painted RAL colour 7016

Luminaire: Rio500, IP65 rated lantern with smooth 360 beam with horizontal cut-off using single 150W ceramic metal halide lamp with cool white 4000K colour temperature.

Fixing: Root mounted to manufacturer's specification

Bus Shelters
Use: Whole Town Centre

Manufacturer: For bus shelter detail and specification contact HCC

POWER BOX GENERAL REQUIREMENTS

In-ground power supplies should be located with care and consideration to where stalls will be located and events taking place, so that each supply is able to service multiple stalls and events.

Power Requirements:

Consideration must be given to the everyday and the maximum level of power required especially for events to ensure the supplies are adequate for their intended uses.

Markets:

If power is supplied to some pitches then it is recommended that all pitch locations should have access to power to ensure there is no distinction between powered and un-powered sites which can then limit how a market is arranged and grows.

POWER BOX - IN-GROUND SUPPLY

FOR MARKETS AND SMALL EVENTS

Product: GMDA Walkway Box (4 Socket) IP65 polycarbonate enclosure fitted with either

- 2 no 16A supply
- 3 no 16A supply.
- 3 no 16A, 1 number 32 A supply (for events area and hot food)
- 4 no 16A supply

Supplier: Blakley Electrics (Tel 0845 074 0084) or equal and approved by Hertfordshire County Council and Watford Borough Council

Material:

- Box: welded angle-iron frame with solid walls of 3mm mild steel. Has a 150mm diameter drainage hole in the base and removable gland plates in three sides for cable entry and exit.
- Lid: to be installed flush with ground, fabricated from 8mm chequer plate and hinged in the middle for safe one person operation. Is lockable and keys are supplied separately.
- The complete assembly is hot dip galvanized to BS729.

Dimensions: approx. 625 L x 549.9W x 423 D. (boxes with 2 sockets have smaller dimensions)

Assembly:

- IP65 polycarbonate enclosure fitted with:
- 3 no. 16A/ 30 mA RCBO combinations feeding 3 no. 16A, 230V, 2P+E, IPX7 sockets; and
- 1 no. 32A /30 mA RCBO combinations feeding 1 no. 32A, 230V, 2P+E, IPX7 socket.
- The Distribution Assembly mounts to the underside of the chequer plate lid (fixing points are provided).
- The Distribution Assembly is pre-wired to a separate Incoming Terminal Box via a length of flexible, tough rubber sheathed cable

Method of Fixing:

- Root Fixed over minimum 400mm free draining granular fill.
- Ducting drawings and electrical circuit runs will be agreed prior to construction.

Notes:

- The above specification will require specialist installation including extensive ducting, cabling, earthing, drainage, new electrical connections and feeder pillars.
- It is not recommended to install such units unless part of a overall public realm enhancement scheme.
- For large events such as Imagine Watford there is a requirement for boxes to have the following power supply which may require a different sized box**.**
    - 1 no 63A 3 phase supply
    - 2 no 16A supply

TREE SURROUNDS

Product: Permeable resin bonded gravel surfacing. ‘Arboresin’ or equal and approved

Supplier: Greenleaf Horticulture (01424 717 797)

Wearing course: 10mm angular gravel

Colour: Silver-grey granite

Geotextile: Terram 600 permeable membrane or equal and approved

Suggested installation: Allow for 200, overall infill depth. 150mm Type 1 to be placed over area to be surfaced. Porous Geotextile to be placed over Type 1. 50mm depth of the mixed washed and dried aggregate with mixed resin and hardener to be placed on the geotextile to required depth, trowelling to a smooth finish to finish flush with adjacent finishes. Maintain a gap of 50mm around trunk diameter.

TREE PITS

Size: min 1.5m square x 1000mm deep. If necessary tree pits do not need to be square, but should be a minimum 2m3.

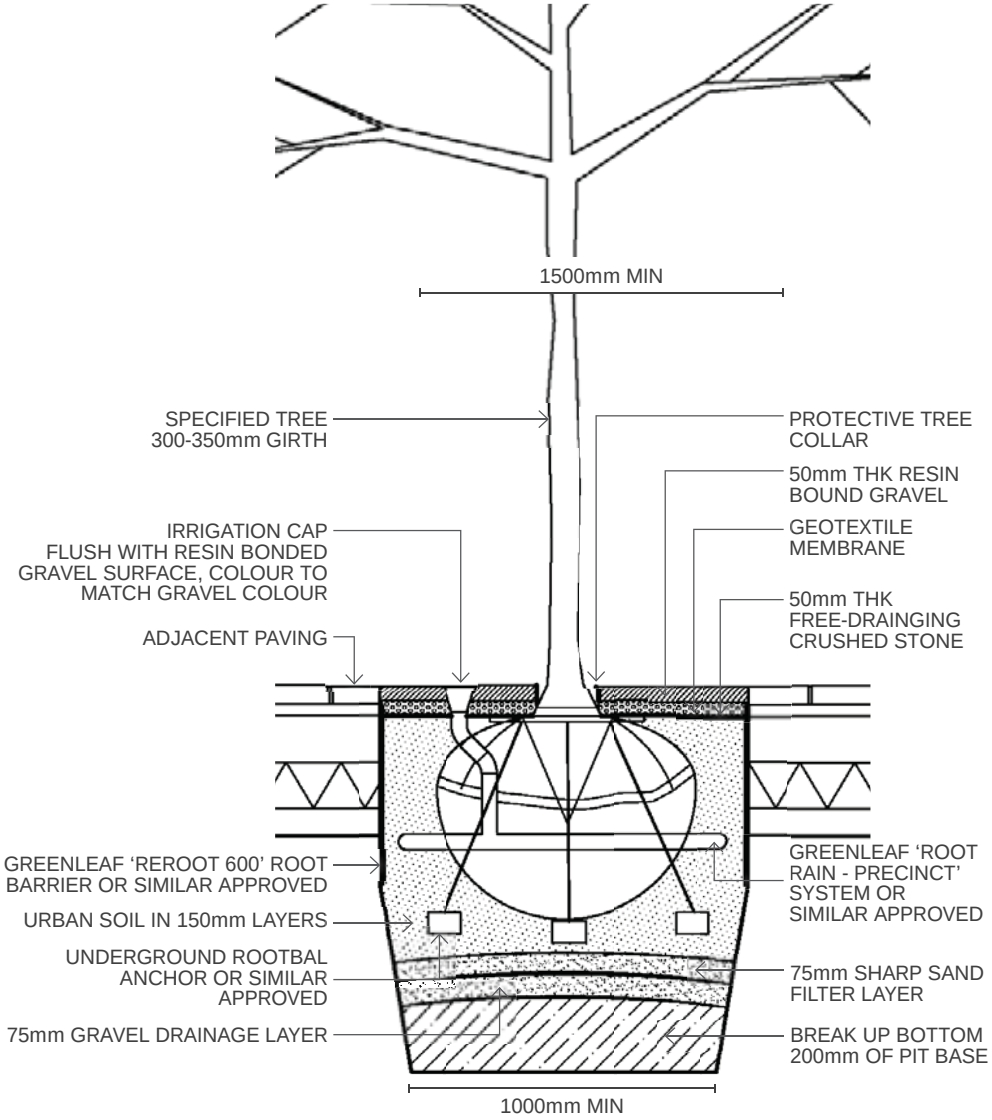
Pit: to have vertical sides and horizontal base. Break up base to a depth of 200mm and scarify sides. Ensure pit is free draining.

Drainage layers: 75mm aggregate layer of clean gravel or broken stone to be installed at base of pit, graded 40 to 20mm. On top of the aggregate layer a 75mm course of sharp filter sand is to be installed.

Soil: Load bearing soils to help increase the development of their rootzones.

Special Requirements/Accessories:

- Trees to be staked below ground with an underground guying system. Platipus anchors or equal and approved.
- Tree pits must include an irrigation pipe. Greenleaf root rain precinct system or equal and approved.
- Root barriers are to be installed wherever required to protect services and minimise disruption to paving. Greenleaf ReRoot 1000 or equal and approved.



TREE PLANTING DETAIL 1:20

TREE SPECIES

General requirements:

- Selected species are to have an upright form, a 2.4m high clear stem and reach a mature height of 10-15m with a uniform canopy.
- At time of planting trees are to have a minimum girth of 20-25cm and larger in prime public spaces.
- Trees are to have a 2.4m clear steam.
- Trees are to be planted between November and March.
- Tree species other than those listed within this guide are to be approved by the adopting authority prior to ordering and planting.

Approved Suppliers:

- Barcham (ph: 01353 720 748)
- Deepdale Trees (ph: 01767 262 636)
- Hillier Nurseries (ph: 01794 368 733)

Other suppliers to be equal and approved by adopting authority.

***Sorbus aria* Lutescens**
Common Name: Lutescens Whitebeam
Mature Height: 7-10m
Features: Silvery-white new growth in spring, white flowers April - May, orange-red cherry like fruits in autumn

***Prunus avium* Plena**
Common Name: Plena Wild Cherry
Mature Height: 10-15m
Features: Mass of white double flowers in spring, autumn colour

***Fraxinus excelsior* Wethofs Glorie**
Common Name: Ash
Mature Height: 20m
Features: Fast growing, glossy green leaves, uniform habit & growth

***Sorbus aucuparia* Sheerwater Seedling**
Common Name: Rowan Sheerwater Seedling
Mature Height: 10-15m
Features: Striking autumn colour, white flowers & red berries in September.

***Acer campestre* Elsrijk**
Common Name: Field Maple
Mature Height: 10-15m
Features: Autumn colour, regular oval habit, low fruit fall

***Acer campestre* 'Streetwise'**
Mature Height: 7m
Features: Autumn colour, regular oval habit, low fruit fall, very hardy

Section 9: Phasing and Implementation

When implementing any section of the public realm the following public relations and the operation of the public streets must be considered:

- Disruption to shops and businesses along the street – extent of area 'closed off' from public use.
- Public relations and awareness before and during the scheme - keeping the public informed.
- Maintaining permanent access to all doorways during working hours.
- Noise and dust pollution.
- Maintaining emergency access and co-ordinating delivery procedures.
- Disabled and visually impaired movement and access.
- Organised events.
- Seasonal shopping / busy periods.

With regards to site logistics the following must be considered:

- Physical working areas – site staff and machinery operations.
- Works programme – balance between size of working areas / time on site.
- Appointing a public relations agent.
- Providing access / ramps to all premises.
- Machinery – working within sound barriers and potentially cutting slabs off site.
- Health and safety – working within a public space, danger to site staff and the public.
- Organised release of information to the public including letters and door to door advice by the contractor.
- Phasing and transitional areas to tie in levels as works progress.
- Site access, large machinery.
- Storage areas.
- Working hours.

Planning Policy Team,
Watford Borough Council,
Town Hall,
Watford,
WD17 3EX.
01923 278970
strategy@watford.gov.uk
www.watford.gov.uk/planning

Highways
Hertfordshire County Council
County Hall
Pegs Lane
Hertford
Hertfordshire
SG13 8DQ